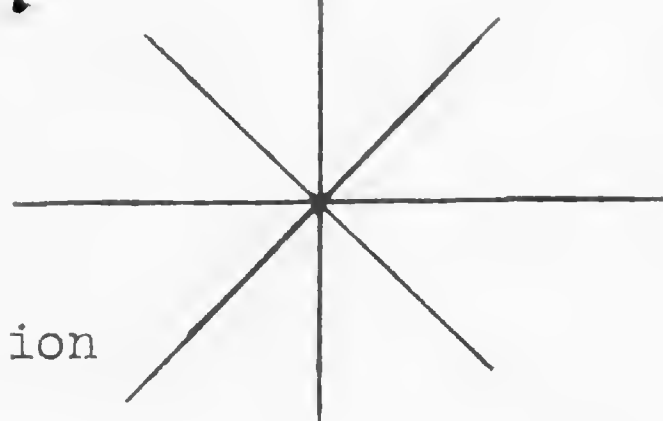


assumed NW

Ship  
Direction
 SMITHSONIAN INSTITUTION  
 DIVISION OF BIRDS  
 AT SEA DAILY LOG - E

OBSERVERS:

RLPyle

Date Sept. 11, 1967  
Pg. # 1SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1220

Dolphin

8

SE

Passing opposite direction from ship - tight group - arcing only halfway out of water, except once when one leaped completely clear and fell back in on his right side. This one had white belly in approximate pattern of Delphinus. Otherwise, all black above.

1220

1300

Between 1220 & 1300, following species seen, though complete tally of numbers was not kept

Brown Pelican - ~~1~~  
 Cormorant (Brandt or Double-crested, not Pelagic)  
 Western Gull

Wh-rumped St. Petrel - 1

S/SB Shearwater - 1 (before 1240) } all travelling  
 - 2 at 1240 } north  
 - 3 at 1250 }  
 total 6

Sea lion - 1

1303

Pelican

2

1324

W. Gull

4

1325

Sabine Gull

1

1329

W. Gull

3

1335

Sterna-sp

4

1336

Sterna-sp

2

Sterna - size and flight of Common/Arctic/Forster type. Some with black caps - others with only black hindcrown, nape and cheeks remaining - None seen with black eyemark of winter Forster. Some with noticeably long outer tail feathers, others with straight cut tails. Bill color generally not seen, but not bright red or yellow.

1336

W. Gull

2

1340

Shearwater-sp?

1

N

Probably sooty in size & flight, but too distant in sun to be sure underparts weren't pale.

1342

Sterna sp

9

Not a flock

1347

Common Tern

1

Imm - alone - noticeably more "smudgy" than others - passed very close to ship, finally crossing bow - white forehead, complete dark band across hindcrown and nape - eye-to-eye. Distinct dark mark along upper leading edge of proximal third of wing. (This usually considered diagnostic for imm Commons). Bill very dark reddish at basal 2/3's, outer 1/3 black. Flushed from water - no wing mark as above, but white forehead.

1353

Sterna sp

1

Ad

1402

W. Gull

1

1403

Sterna

1

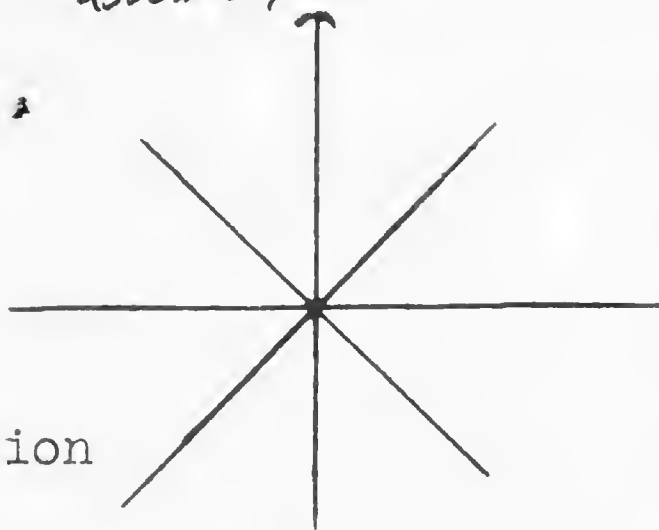
1407

Sabine Gull

5

N

assumed NW

Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

RL Pyle

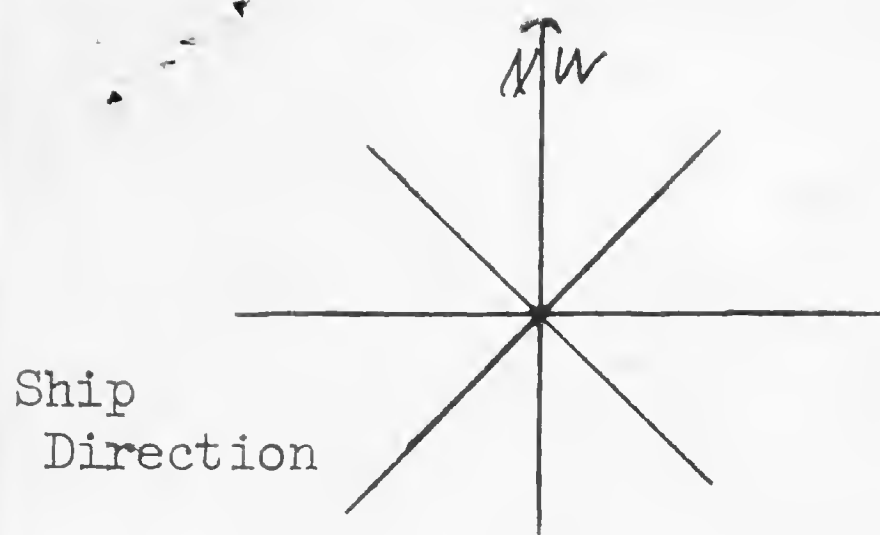
Date Sept 11, 1967  
Pg. # 2SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1408	Sterna	1			
1410	Shearwater-sp	1			Distant, Sooty size - probably Sooty
1413	Shearwater-sp	1			Distant, Sooty size - probably Sooty
	W. Gull	3			
1416	Sabine Gull	1			
1422	Sterna	3			
1425	Sterna	4			
1425	W. Gull	4			3 sitting on water
1426	Pink-ft. Sh.	1	N		light brown above, distinctly darker wing tips dirty white below - large - flapped a lot - arced couple of times
1428	Sterna	8	SW		} together
	Sabine Gull	1	SW		
1429	W. Gull	1			on water
	Sterna	1			
1432	Sterna	1			
	Sabine Gull	1			
1437	Sterna	3			
	Gull-sp	1			Distant - but probably large like Western
1440	Sterna	1	S		
1441	Sterna	1	S		
1454	W. Gull	1	S		Ad
1456	Phalarope?	8	NW		Size + general color of phalaropes - tight flock flying by 50' above water, 1 repeating a single call note "cheek". 1 imm/subadult, 1 adult
1501	W. Gull	2			Ad
1507	W. Gull	1			
	Sterna	1			
1511	W. Gull	1			on water, flushed
1514	W. Gull	1			imm/sub-adult
1518	W. Gull	2			1 ad; 1 subadult
1543	W. Gull	1	E		subadult
1544	W. Gull	1	SE		adult
1545					close obs
1655					Begin obs
1714	Gull-sp	1			Prob. Western - very distant - crossed bow + settled on water
1715	Mammal	2			2 fin sightings simultaneously Came out of water - dark above, white below
1717	Dolphin	2			
1730	W. Gull	1			standing on kelp
1735					close obs.

SI-MNH-958-e

Rev. 5-66



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

RL Pyle - 0654 -  
RL DeLong 0710 -

Date Sept. 12, 1967  
Pg. # 1

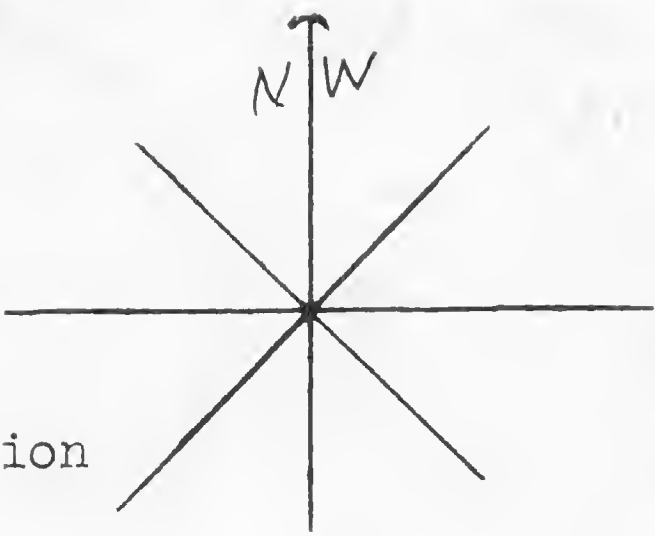
SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0654					Begin obs - Low clouds, damp, good vsky, smooth sea.
0654	M. Dove.	26			Flock-counted - been around ship + perching on heli deck since sunup.
0656	West. Gull	1			
0659	Black Turnstone	1	W		Circled low overhead - good views of above + below
0702	M. Dove	8		140061	Separate flock arrived, then joined earlier flock giving counted total of 34 ± 3. - 1 collected <del>early</del> <del>about 0705</del> 8 remained by 0730 2 - 0800 still 4 - 0900 1 perched on mast - 1315 5 - 0940 4 - 1015
0706	Tanager	1			Remained with ship for over an hour. Finally shot, but dropped over the side and was lost. Orange/red - particularly bright on breast, throat, head, back - wings dusky. Dusky patch eye to bill. Tanager bill. Seemed much more orange/vermillion than normal summer or Hepatic.
0711	W. Gull	2	NW		imm
0713	W. Gull	1	W		imm
0714	Myarchus flycatcher	1		140062	
0714	Landbird	1			high overhead - cowbird?
0715	W. Gull	1	E		
0719	Sooty shear	1	N		
0725	Jaeger, sp	1	N		
0732	Sooty shearwater	1	N		
0732	Ducks	3	SE		long necked arrived, and following
0733	BFAlb.	1			
0734	W. Gull	1	W		
0735	Sooty shear	2	N		
0735	Delphinus	2			Briefly
0737	Empidonax flyc.	1		140063	
0740	Sooty shear	1	N		
0741	Waterfowl	40 ± 20	N		String/flock in air - very distant
0745	Parasitic Jaeger	1			Jaeger chasing landbird - landbird finally reached ship, jaeger departed. Landbird <del>seen to be Empidonax</del> , but <del>it</del> departed. Jaeger. wings relatively narrow, pointed. Flight rapid, agile followed erratic escape flight of empidonax. Two pointed central tail feathers - proper length for Parasitic.
0752	Br. Pelican	1	SE		
	Sooty <del>Jaeger</del>	1	N		
0757	Bird	1	N		
0758	Pomarine Jaeger	1	SE		Tern/Jaeger type. Flying high, fast, fast wingbeats. Distant. Prob. jaeger. <del>2 ft off water</del> 2 ft off water - Flying direct, slow - some gliding
0801	BFAlb.	1			1 still following. Sat on water.
0810	Pomarine Jaeger	1	W		Dark adult
	Sooty shear.	1	W		
0811	Pomarine Jaeger	1	NE		Light adult
	Sooty shear	1	W		
0812	Sooty shearw.	7	W		} Not flocks
		1	W		
		2	W		
		7	W		
0819	Sooty shearw.	12	W		
0820	"	1	W		
0824	Long-tailed Jaeger	1	SE		Fairly close - light pattern - long tail feathers

MD - 34 - EMP - 1 -  
WG - 6 - WDR - 40 -  
BT - 1 - PBJ - 1 -  
T - 1 - BPE - 1 -  
ATF - 1 -  
PS - 2 - BRD - 1 -  
SS - 42 - PMS - 3 -  
JSP - 1 - LTJ - 1 -  
DPS - 3 -  
BFH - 1 -  
139





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

RL DeLong, RLPyle

Date

12 Sept 1967

Pg. #

2

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

0822 to 0825	Sooty Sh.	67	W		For next hour, Sooty shearwaters counted passing by field of binoculars looking straight ahead.
0825-30	Sooty Sh.	77	W		
0830-0835	Sooty Shearwater	52			49 to W, 3 travelling E
0833	Pink-ft	1	W		
0834	Tern/Sarger	1			distant
0837	Pink-ft	1	W		
0838	Pink-ft	1	W		
0839	Sarger sp	1	S		
0835-0840	Sooty	29	W		
0840	Emp. Lark sp.	1			Looked briefly on S Lip.
0846	Pink Lark SL	1			
0847	Sooty Shearwater	1	W		
0840-0847	Sooty Shearwater	37	W		
0847	Phalarope sp	2			Chased Gannet water
0847-0852	Sooty Sh	24	W		
0852	W. Lark sp.	2	W		
0852-0857	Sooty Sh	34	W		
0858	Phalarope sp	1	W		
0859	Tern sp	2	W		
0857-0902	Sooty Shearwater	35	W		
0902-0908	Sooty	15	W		
0911		5	E		
0908-13	Sooty	8	W		No SEA following
		7	E		
0913	Sterna	1	W		
0917	"	3	W		Black Cap, dark mouth, white bill
0918	W. gull	1	W		imm
0919	Sooty Shearwater	4	W		
"	"	2	E		
0919	Sterna	1	W		Dark with white lower wing

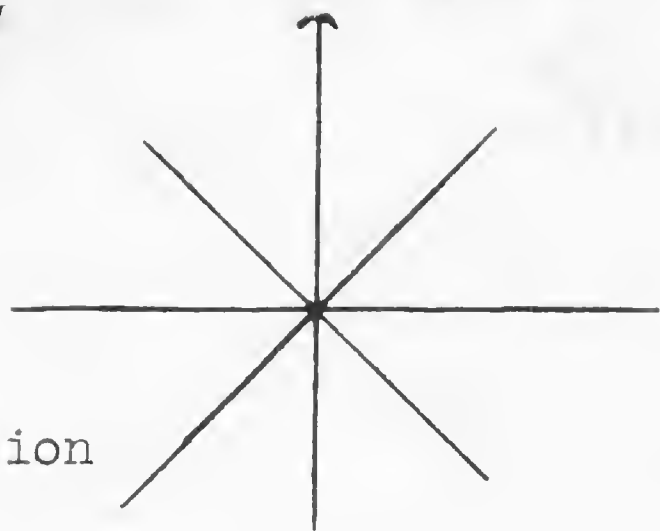
SS- 397 -  
PFS - 6 -  
T/J - 1 -  
J sp. - 2 -  
EMP - 1 -  
SAB. - 1 -  
PINK sp. - 3 -  
TEON - 6 -  
WALC - 1 -  

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418



Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

DeLong - to 0930  
Pyle - to 1025  
Chandler - 0935

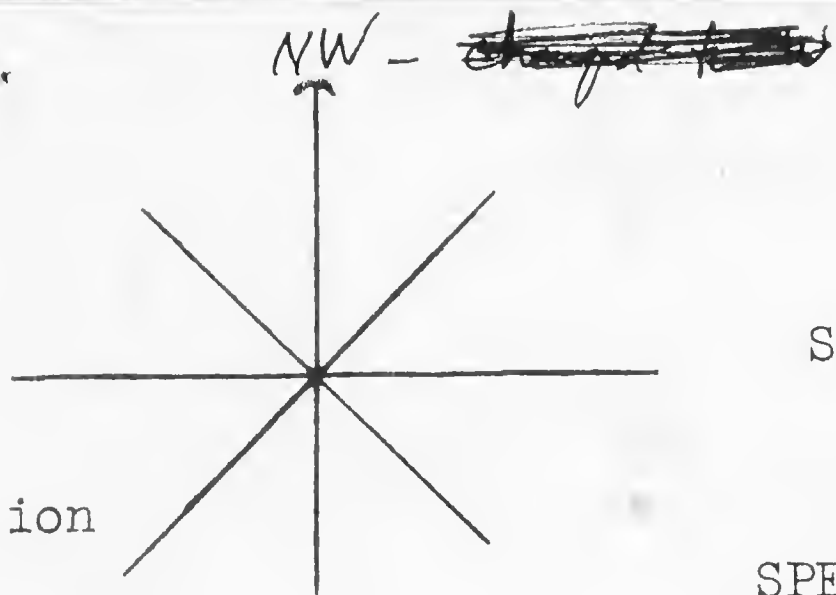
Date 12 Sept  
Pg. # 3

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0918-0923	Sooty Shear	1	SE	ad.	
0922	BFA	7	SE		
0926	Pink-footed Shear	1	E		
0928-0928	Sooty Shear	6	W		
0928	Bird	1	SE		
0928-0930	Sooty Shear	2	W		
0930-35	Sooty Sh.	2	W		
		1	E		
0935	Storm pet	1	E		
0938	Sooty Sh.	2	W		
38	Jarvis	1	S		dark ph. - Pomarine?
0940	SOOTY SHEAR	4	S		NOT A FLOCK
0943	Pink Foot	1	ce		
	STORM PET	1	ce		
0945	BFA	4	ce		aster
0950	SOOTY SHEAR	1	ce		
0953	STERNASP	1	N		com??
0954	SOOTY SHEAR	1	ce		
0955	PINK FOOT	1	ce		
0956	SOOTY SHEAR	1	S		
0959	STORM PET	1	ce		at 1 1/4 MI.
C 1000	CHIPPING SP.	1	ce	140064	1 collected immature landed on deck
1014	Sooty shear	1	S		
"	"	2	S		
1017	Brown pelican	1			On water - flushed
1017	WRSP	1	ce		
1017	Pink-foot Sh.	1	ce		
1017	Sooty Sh.	2	ce		
1018	"	1	N		
1018	"	2	S		
1020	"	2	S		
1020	Pink FOOT	1	ce		
1027	SOOTY SHEAR	1	ce		
1030	"	2	S		
1034	"	2	S		
1036	RED PHAL	4	ce		ON A SLICK
1037	SOOTY SHEAR	1	S		
1038	STORM PET	1	ce		

W. Gull - 1 -  
SS - 43 -  
PFS - 5 -  
Bird - 1 -  
STP - 4 -  
JSP - 1 -  
TEAN - 1 -  
CHIP - 1 -  
R Pel - 1 -  
WRSP - 1 -  
R PHAL - 4 -



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Chandler - to 1135  
Pyle - 1135 to  
DeLong

Date 12 SEPT. 1967  
Pg. # 4

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1040	JAEG. SP	1			SITTING ON H <sub>2</sub> O - Pom? - 3 SP. - 15
1041	SOOTY SHEAR	1	S		- 55 - 9
1045	SOOTY SHEAR	1	S		- STP. - 4
1049	" "	1	S		- M. W. - 1
1101	JAEG. SP	2	ce		Pom? LT & DK } AT EDGE OF RAIN SQUALL
1103	" "	1	ce		Lt. Pom? } 110 CLEARING
1108	SOOTY SHEAR	1	S		- RPs - 60
1109	STORM PET	1	ce		ALL DARK
1125	MCGILLIVRAYS?	1	ce		LANDED ON DECK QUIETLY LEFT HEADING NORTH
1130	DUCK SP	14	ce		POOR LIGHT, NO PATTERN ON UPPER SIDE
					UNDER SIDES? PUDDLE TYPE; PINTAIL
1140	BFA				SIZE 1 SH PARTLY ATTRACTED TO SHIP
1210	Whale and "walrus"				2 now following Reported by seaman on watch - 1000 yds to starboard.
1215					No BFA's following
1215					stratus clouds forming again - now 8/10 cover, thin -
1222	Storm Petrels	2			Feeding(?), remaining close around floating object - Too distant to identify object
1225	Sterna sp	1	SE		Travelling direct
1227	Sterna sp	1	SE		"
1247	Jaeger sp	2	SE		Light phase - probably pomarine
1251	Red Phalarope	2			First heard, then seen sitting on water - flushed
1257	Jaeger-Pom?	1	E		Light - Flushed from water - headed E
1300					No BFA's following
1305					Enter Fog bank - Thin overcast - sun barely shining through
1323	Jaeger, sp	3	S		Fog bank sharply defined - entered abruptly
1315	M. Dove	2			Horizon still visible, but vshy sharply reduced.
1325					Not a flock. 2 together on water, 1 flying nearby, 2 flying farther off.
1340	Sterna	1	SE		Perched on mast - probably 1 of early morning flock.
1352	Storm Pet	1	SE		Fog thinning, but horizon still fuzzy - Fog cleared by 1400.
1408	Red Phalarope	1	SE		Another common.
1414	Red Phalarope	1	SE		Calling
1416	Jaeger, sp.	2	SE		Heard only - but close.
1420	Gull sp	1	ce		light ph. - travelling 30' apart
1435	Red Phalarope	35 ± 1	ce		Circled ship low - immature - more light areas than normal for imm. Western - possibly 2nd year bird. back & upper tail coverts white with pattern of spots - black terminal tip to tail. Counted carefully. On and off water, only 1 had remnants of rusty on lower neck.
1447	Jaeger, sp	1	NE		Distant - Phase?
1520	Red Phalarope	21			
1515	BFA	3			Jumped off water - on slick area
					Following Jaeger Lines going to Starboard of us

NW - changed to West

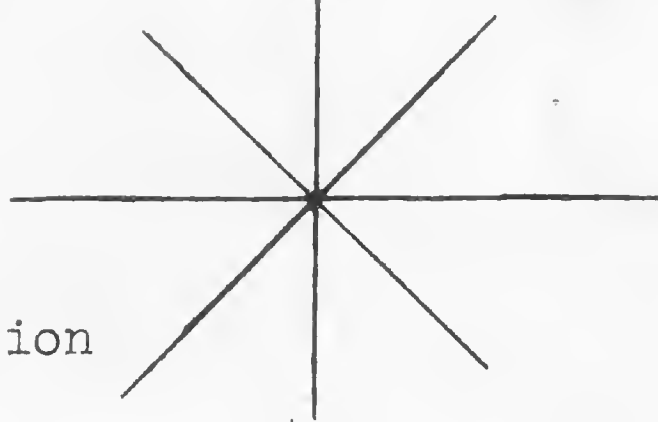
OBSERVERS:

Pyle, DeLong

Chandler 1530-

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

Ship  
Direction

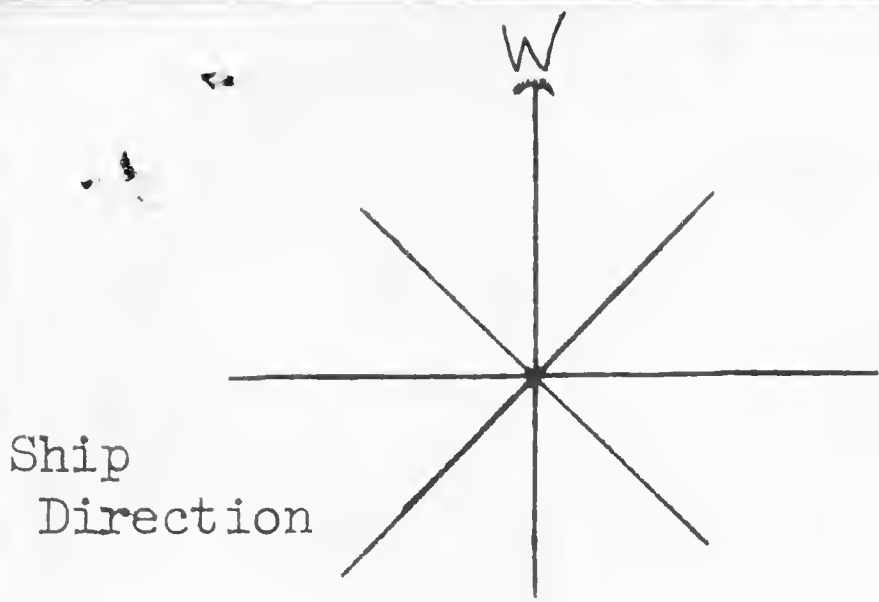


SPECIMEN  
or

Date 12 Sept. 67  
Pg. # 5

	TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
	1517	BFA	1	SE		Passed to rear, and joined two others following.
	1517	BFA	2			3 now following
	1529	Sooty Sh.	1	CEE		
	1545	Mourning Dove	1		140065	circling ship - probably bird on mast at 1315, possibly 1 of early morning flock
	1550	WRS P	2	SW		
	1553	Phalaropus	4	E		
	1555	Sooty Shear	1			
	1559	STORM PET	1	E		Flashed from surface
	1607	JAGG. SP	1	S		
LOW	1619	STORM PET	1	CEE		
↑	1629	BIRD	1			DISTANT - BRIDGE - GLIMPSED - JAEGER?
	1630	STORM PET	1	EE		
↓	1707	PINTAIL?	1	CEE		CIRCLING SHIP non adult male duck MALLARD/PINTAIL 1 NARROW WHITE EDGE IN SPECULUM REL. 2
GAUD	1707	BLACK TURNST.	1	CEE		calling
	1720					
FF	1720	TERN? SP.	3	CEE		DUCK PRESENT WEATHER CLEARING RAPIDLY
		JAEGER SP.	7+	CEE		ALL MILLING ABOUT - DISTANT 3 WHITE BIRDS TERNS OR TROPIC BIRDS OR SABINES GULL APPEARED TO BE FISH JUMPING POSSIBLY A SHEAR/PET OR TWO PRESENT
TF	1725	SABINES GULL	11	SE		A LINE HIGH OVER H20
		BIRD	1	"		
	1752	Sterna	1	NW		SMALL, FLYING w/ GULLS ASHORE BIRD? COMMON/ARCTIC
	1755	Sterna?	3	EE		Very distant away from sun - shone white against dark clouds - definitely Terns.
	1811	Sterna	7	E		Not a flock } moving back & forth from high to low -
	1812	Sterna	2	E		Feeding? - Direct travel.
	1814	Jaeger sp	1	NE		Distant
	1815	Sterna	4	E		
	1830	Storm-petrel	1	SE		In sun
		Shear/pet	1	NW		
		Sterna	7	E		Not a flock - string following each other - Two calls heard - scratchy gargle - single syllable.
	1833	Shear/pet	1	SE		
	1835	Storm petrel	1	W		
	1836	Phalaropus sp	2	W		
	1843	Sterna	2	N		
	1842 & 1844	Whale spout				"Balaeoptera" in ADP Vertical, narrow column fanning at upper half - 30' (?) Seen twice - if same animal, moving directly south Spout again - now south of ship's track. No part of animal seen.
	1848	Tern/Jaeger	1	SE		
	1902	TERN/GULL	1	E		Distant, STERNA? / SABINE'S? (STERNA REL. 3)
		JAGG. SP	1	E		
	1904	"	1	W		
	1905	STORM PET	2	N		IN SUN
	1907	JAGG. SP	1	E		AT CA 2 MI.





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:  
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\_\_\_\_\_  
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SPECIMEN  
or

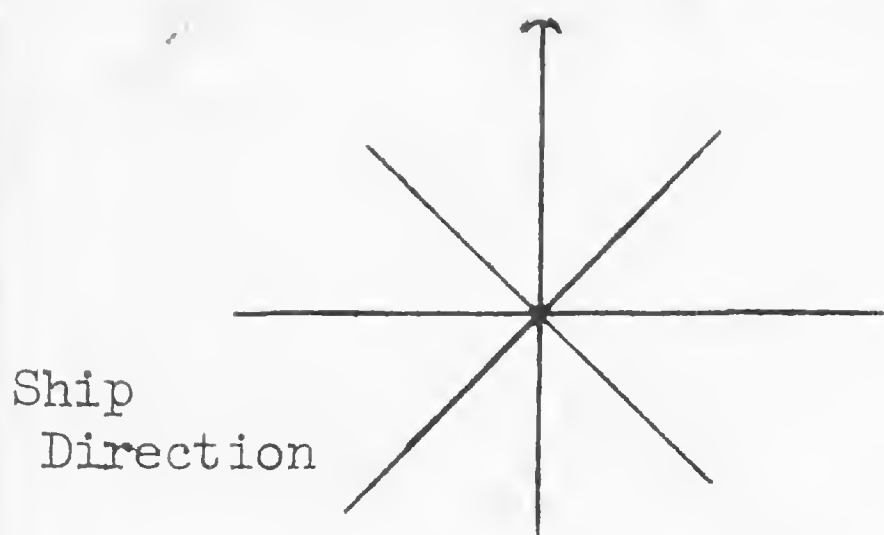
Date 12 Sep 7  
Pg.# 6

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1910	Storm petrel	1	NW		In sun
1914	Storm-petrel	2	E		
1916	Storm-petrel	1	S		
1917	Storm-petrel	1	SE		
1919	Shear-sp	1	S		Probably Sooty/SB type
1919	Storm-petrel	2	N, on		Not together
1921	Falger sp	1	SW		
	Storm-petrel	1	S		
1922	Falger/tem/gull	1	SW		
1922					Sunset

ST PET - 8 -  
SHEAR - 1 -  
J SP - 1 -  
JAL - 1 -  
          
    11

812

78  
61  
      
89  
14  
      
75



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

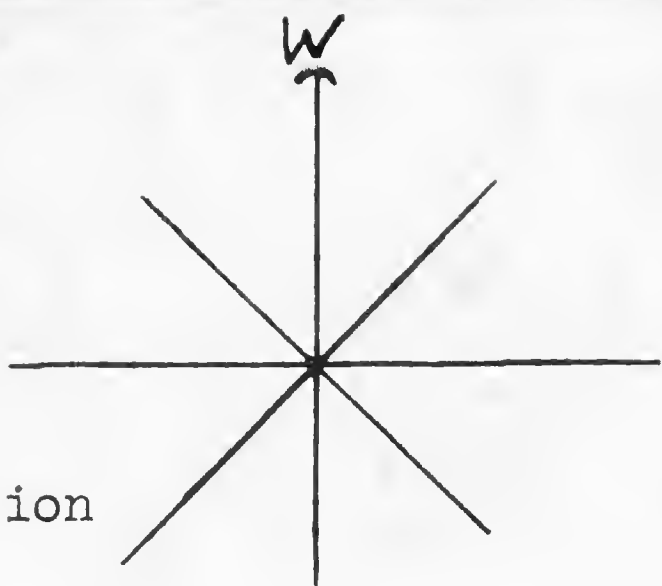
OBSERVERS:

SPECIMEN  
or

Nocturnal

Date 12-13  
Pg.# 1

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0030					very in obs. - euphoniae plenty fed in water.
0110	Phalarope	2+	888		by vocalization
0120	Phalarope	1+			" "
0122	Storm Pet	1	888		
0130	Phalarope	3			total of 6 birds flying
0140	Storm Pet	1			around
0141	Bird	1	888		seen in air from and E log.
0145	WRSP	1	ce		
0148	RED PHAL.	2	ce		calling not seen
0200					SECORGO BS.
0415					Resume obs.
0425	STORM PET	1	ce		
0432	" "	1	ce		
0442	BIRD	1	ce		R.P.H.L.?
0444	STORM PET	1	ce		
0445					CLOSING BS.



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

R.L. Pyke - 0659 -

D. Long 0980 -

Date Sept. 13, 1967  
Pg. # 1

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0659					Begin observations - Low heavy stratus overcast Usky clear but dim. sea very smooth
0659	Dolphin/porpoise	1?	E		Barely broke water 2-3 times - Never a good look.
0715	storm pet	1	lee		
0728	Duck sp	1	SW		Travelling direct. Pintail/mallard type
	Jaeger sp	1	S		Dark in dim light but not necessarily dark ph.
0733	BFA	1			Following
0744	Jaeger sp	1	SE		Distant
0745	BFA	2			2 now following
0746	storm petrel	2	lee		
0751	BFA	4			4 now following
0807	storm petrel	1	lee		
0818	Porpoise	7			Reported by Bridge
0845	BFA	1			(3 other) arrived from SW - joined followers, making 4 again.
0903	Cowbird-?	1	lee		Circled overhead - at least the ornithological vacuum is broken.
0926	Whale				0925: immature Cowbird. Landed close by on the ship
0946	Jaeger	1	E		Light phase - probably Pomarine
1030	Por Jaeger	1	S		
1032	WESP	1	SW		Lt. Ph. Rel 2
1055	"	1	SW		
1056	Jaeger sp.	1	S		For app.
1058					7 Pomarine Jaeger Rel 0. Made subsequent pass by ship. Rel. Lt & Ph.
1105	Jaeger sp	1	S		Lt & Ph
1115					
1120	Ring sp	1			Cow bird on deck
1126	Shorebird sp.	1	SW		Large?
1128	Yanbu murrelet	2	S		Small
					on water - near floating log.
1130					Large number of floating logs all morning
1132	Jaeger sp	1			For app but is chasing small bird.

Species - 4 -

Duck - 1 -

3 SP. - 6 -

COASTAL - 1 -

Petrel - 1 -

WASP - 2 -

BIRD - 1 -

SP. - 1 -

SP. - 1 -

SP. - 1 -

SP. - 1 -

SP. - 1 -

SP. - 1 -

SP. - 1 -

SP. - 1 -

SP. - 1 -

SP. - 1 -

SP. - 1 -

SP. - 1 -

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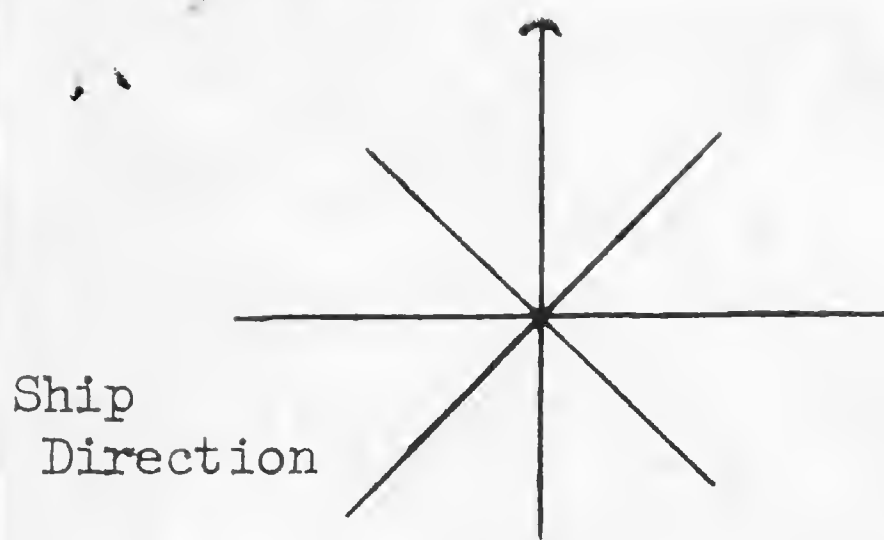
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Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

DeLong

Date 13 Sept  
Pg.# 2

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1143	JAEGER SP	1	E		
1155	STORM PET	1	☉		
	WASP	1	ae		
	SHEAR/PET	1	ae		
C 1200	COWBIRD	1	ce	140074	HERALD/HERMADE C.P.??? 1 collected, landed on deck R.L. DeLong.
1210	WASP	1	ce		
1220	REGOPHAL	1			heard not seen.
1244	STORM PET	1	S		
1245	BLACK TURN.	1	ce		calling not seen
1253	JAEGER SP.	1	SE		
1253	SOOTY SHEAR	1	S		
1305	STORM PET	1	W		
1318	JAEGER SP	2	SE		skiff in H. Lt
1330	JAEGER	1	S		Prob. Pomarine
1342	Delphinus	(5)	W		skiff in water 1335
1352	Storm pet	1	ce		near skiff
C 1355	Leach St. pet	1		140066	Collected from skiff - Chan
1400	Sparrow	1			Landed. shot; fell in water - lost
C 1402	Leach St. pet	1		140067	Collected from skiff
1415	Cowbird?	1			
C 1434	Leach St. pet	1		140068	collected from skiff - <del>Chan</del> - Chan
CC 1445	Arctic Tern	3		140071	2 collected } from skiff Chan
	N. Zead. Shear	1		140072	sighted
C 1450	Sparrow-sp?	1		140075	Landed on ship - collected DeLong
C 1455	WASP	1		140069	skiff Chan
1537	JAEGER	1	S		shot at. ✓
(C) 1538	Storm Pet	1	ce	(140070)	dark rump 1 coll Chan skiff
1550	Pomarine	1	E		LT Ph. Ad - + wide central tail fan.
1555	Shear	7	S		chased by skiff - no catch
C 1604	Arctic Tern	8		140073	from skiff - 1 collected - Chan
1625	shearbird sp.	1	SS		

AROUND 4 SMALL  
SLICHAHA

JAE - 6 -

STORM - 4 -

WASP - 6 -

S/P - 1 -

COW - 2 -

R PHAL - 1 -

BT - 1 -

SS - 1 -

PRSP - 1 coll -

SPARROW - 2 -

ARC. T. - 11 -

NZ - 1 -

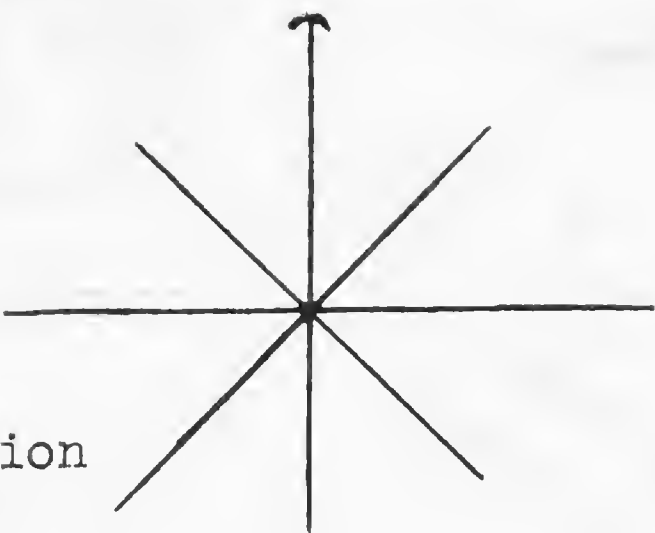
Pom 3 - 1 -

TEAN - 7 -

SH - 1 -

5 V

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

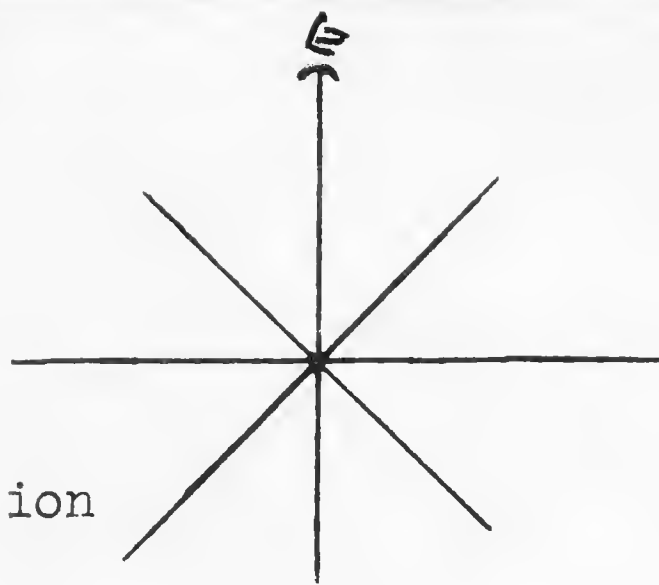
OBSERVERS:

Date 13 Sept  
Pg. # 3

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1630					SK. & L. out of 160 ft	STORM P - 3 -
1641	Sooty Shear	1	S		Rel 2	SS - 3 -
1646	WRSP	1	SH			WRSP - 7 -
1647	Shear/Pet	1	SH		Buller's Shear / Cook's Pet.	S/P - 1 -
1700	Sterna	5 ± 1	S		2 mi out from.	TERN - 26 -
1704	"	4	S			LTJ - 1 -
1705	LT Gannet	1	S		following Sterna -	DUCK - 19 -
1706	Duck	19	S			POMG - 1 -
1713	WRSP	1	SH		Flew South and landed back. Puffins	
1715	Sooty Shear	1	S		staying by support spring.	61
1715					Rel 0	
1732	WRSP (1)	SH			C/C from 270 to 180°	
1736	Sterna	17	S			
1738					active Rel 2	
1855	Storm Pet	1	SH		old Bladder Kelp - back -	
1856	Sooty Shear	1	S		still many logs	
1901	Pom Gannet	1	E			
1915	WRSP	2	SH		maybe, L + PH. Ad.	
1917	"	2	SH			
1918	Storm Pet	1	SH			
1922	"	1	SH			
1936					SS	



Ship	Direction
1	1
2	2
3	3
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98	98
99	99
100	100

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

SPECIMEN  
or

## NOCT GRID

OBSERVERS:

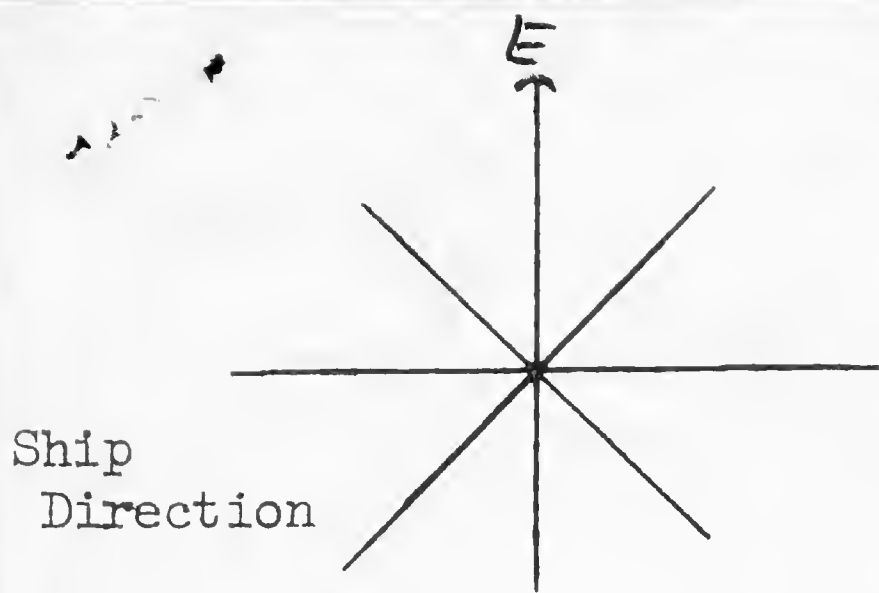
C442

Date 19 SEP  
Pg.# 1

Pg. #

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0250					BEGIN OBS. - UNDERWAY 66 TURNS
0300	BIRD	1	000		SMALL ST-PET/PHAL. IN LIGHT MIST WIND 3 KTS.
0315	WRSP	1	000		
0335	"	1	000		
0400	BIRD	1	000		SMALL, ST PET/PHAL
0420					CLOSE OBS.





SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Chandler Pyle

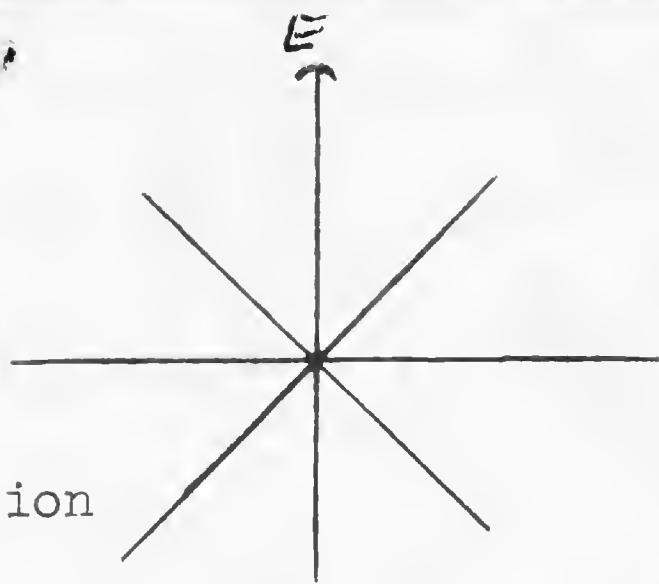
Date 14 SEPT. 1967  
Pg. # 1

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0659					SUNRISE BEGIN OBS
0700	STORM PET	1	CE		
0739	BFA	1			
0839	STORM PET	1	NE		Came in from N - first one seen
0845					
					Porpoise ca 20 (DELPHINUS?) HEADING NNW
0954	Porpoise	12 ± 4	SE		Since 0730, in and out of fog patches - some very dense.
0954	Storm pet	1	NE		Delphinus? - Breaking water but not coming entirely out.
1006	Tern sp	1	S		
1026	Taeger sp	1	S		Dim in edge of fog - probably Sterna.
1103	Ducks-	21 ± 2	SE		Distant
1125	Storm pet	1	CE		Line - large ducks, probably pintails
1131	BFA	2			
1134	Storm pet	2	NW		2 now with ship. 1 with lots of pale areas, head and back - other in good plumage.
1138	Red Phalar.	3			Following a long slick oriented NW-SE
1240	Mourning Dove	1	SE		Flushed from slick - many bubbles - some float on one bird has red feathers in slick.
1255					Flying about ship.
					Delphinus ca 40 ± 5 No a herd
1310	Taeger sp.	1	SE		Colored animals - Did not come to ship
1315	WRSP.	1	SE		Far off.
1345					
					Seems like - man over board 2nd all stop.
1409					RESUME OBS UNDERWAY
1415	SOOTY SHEAR.	1	S		
1416	TERN SP.	1	S		
1507	STORM PET	1	N		
1515	BFA	4	CE		possible pickups from passing freighter
1524	WRSP	1	CE		
1547	ARCTIC T.	1	S		
1548	STORM PET	1	CE		

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Date 14 SEPT 1967  
Pg. # 2

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1604 Sooty Shear 1 S  
1620 Storm Pet 1 NE  
1635 " " 3 CE  
1700 Jaeger sp. 2

1715 BFA

500ft high - flying N to South - flying  
shark distance then circling - again, again etc.  
Both Lt Phase adults - probable juvenile  
by size. Hunting / searching?

Currently following  
5 dark-rumped birds  
1 light rumped "

Very light bird of this Am. Not  
now with us.

1825 Sooty Sh. 1 S

White underwings - Flying very rapidly downwind - short  
rapid bursts of wingbeats alternating with glides  
arching up to c. 30°

1909 Storm petrel 1 N

1913 Storm petrel 1 E

1920 Close obs sunset.

Storm - 14

BFA - 7

TEMP. - 2

JSP. - 4

DOCK - 21

R. P. - 3

MD - 1

WASP - 2

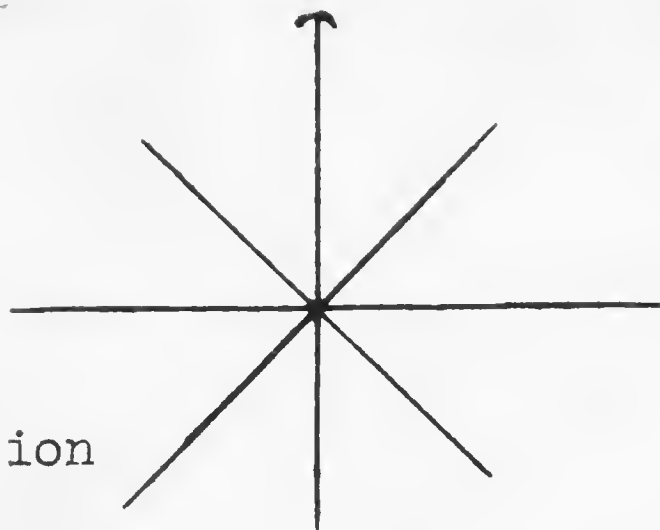
SE - 3

BA - 1

SI-MNH-958-e

Rev. 5-66

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

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SPECIMEN  
or

*Nocturnal*

Date  
Pg. #

*#4-15*

*1*

TIME SPECIES # DIR. BAND NO. REMARKS

0300

0355

*R. Phul.*

*2+*

0410

*"*

*1*

0420

*"*

*2*

*SH*

0430

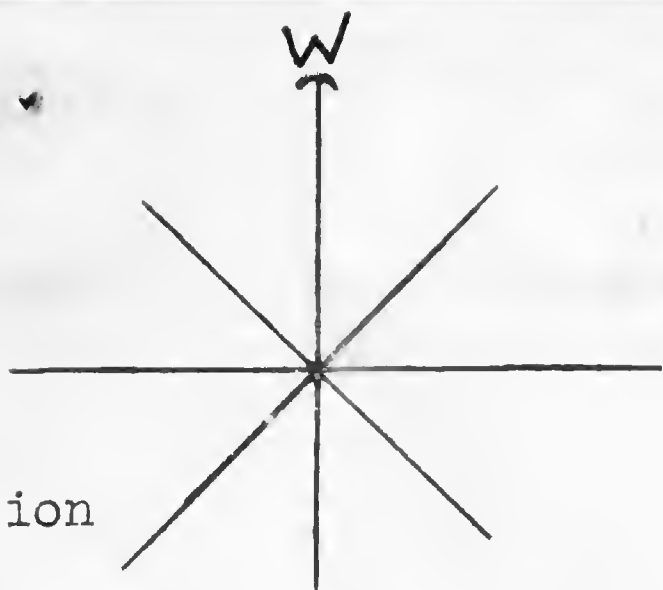
*close*

*begin 5th*

*come calling for ship*



Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

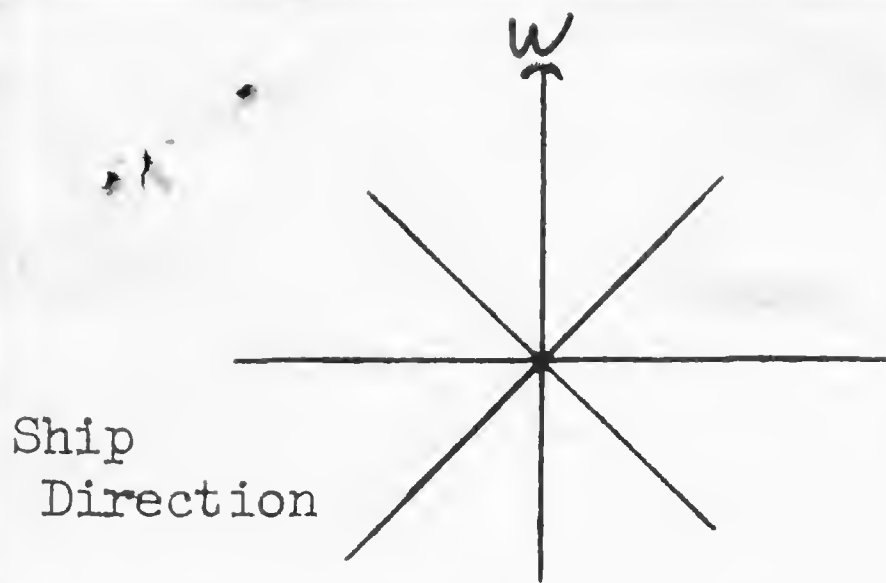
OBSERVERS:  
R. E. Ryle

Date 15 September  
Pg. # 1

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0649					SR begin in air. - low overcast - heading into NW wind hampers obs.
0650	M. Dove	1			With ship
0650	Cowbird	1			with ship - immature
0707	BFA	1			" " - several times flying 15' above deck level.
0733	Jaeger sp	1	SE		Lt phase ad - made one good pass at M. Dove, then Small-parasitic or Long-tailed? - L-T reliability 2. continued on.
0745	BFA	2			Following
0749	Tern-sp	1	S		Not with group when seen.
0750	S/SB Shear.	2	lee		Milling group - at least 4 birds, possibly more - Too distant to see any storm-pets. - No slick visible in wind-roughened water. Birds remained in one general area as ship passed.
	Jaeger	1	lee		
	Bird	1	lee		
0838	Shearwater sp	1	W		Sooty, reliab. 3.
0910	M. Dove	1			Earlier
0912	M. Dove	3			Earlier <del>not</del> dove not seen after about 0750.
0912	BFA	3			Probably 3 new ones
0930	Red Phalarope	1			Following
0938	Cowbird				Crossing bow, calling
0945	Sooty shear	1	SW		imm - same as 0650 bird?
0958	Shear-sp	1	SW		
0958	shear/pet	1	SW		
1000	Sooty sh.	1	SW		
1001	Sooty sh	2	SW		
1003	Bird	2			Very distant
1009	Sooty sh	1	SW		
1010	Sooty sh	1	SW		
1016	Sooty sh	1	SW		
1020	Shear-sp	1	SW		Distant - prob. Sooty
1021	Shear-sp	2	SW		Distant
1022	Storm pet	1	SW		
1023	WRST-Pet	1	lee		
1025	Sooty sh	1	SW		
1027	Sooty sh	1	SW		
1034	Shear	1	SW		Prob. Sooty
1038	Sooty sh	1	SW		
1038	Storm pet	1	SW		
1043	Sooty sh	1	SW		Rel. 3 - distant
1044	DRSP	1	lee		Rel 2
1048	Sooty sh	1	SW		Rel 2



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

RLPyl

Date 15 Sept. 1967  
Pg. # 2

SPECIMEN

or

TIME SPECIES # DIR. BAND NO. REMARKS

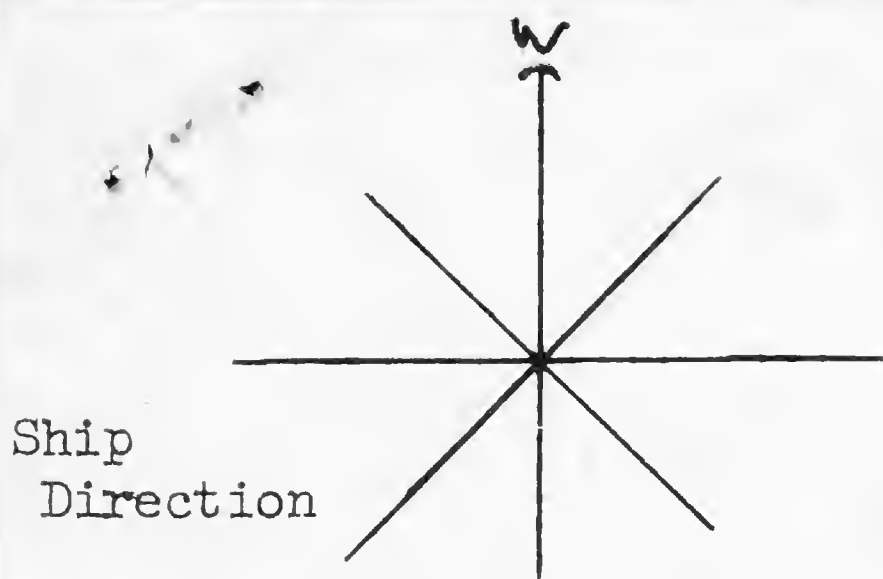
1051	M. Dove	1			1 flying high - alone - prob. diff. bird from last 3
1052	Sooty sh.	1	SW		Rel. 2
1053	Storm pet	2	lee		
1058	BFA	4			Following
1059	Sooty sh	1	SW		Rel 3
1105	Sooty sh	1	SW		Rel 2
1106	Sooty sh	1	SW		Rel 2
1106	Sooty sh	2	SW		Rel 2. together
1111	Sooty sh	1	SW		Rel 2
1117	Bird	1	S		Very distant
1118	Sooty sh	2	SW		Rel 2
1122	Sooty sh	1	SW		Rel 3
1124	Jaeger-sp	2	SW		Flying high - one paused to circle a few times - Distant
1126	Sooty sh	1	SW		Rel 3
1127	Pink-ft. sh	1	SW		Rel 3 - seemed larger - slower flapping - pale underparts - but distant
1128	Sooty sh	2	SW		Rel 2
1129	Sooty sh	1	SW		Rel 3
1129	Sooty sh	1	SW		Rel 2
1130	Shear-sp	1	SW		
1135	Sooty sh	2	SW		Rel 3
1136	Sooty sh	3	SW		Rel 3
1138	Storm pet	1	lee		
1145	SOOTY SHEAR	1	SW		
1148	STORM PET	1	SW		
1203	SOOTY SHEAR	1	SW		
1205	" "	1	SW		
1208	" "	1	SW		
1209	" "	3	SW		
1212	" "	1	SW		
1220	" "	3	SW		
1221	" "	2	SW		
1224	" "	1	SW		generally SW but diverted by ship
1232	" "	1	SW		
1234	" "	2	SW		
1235	" "	1	lee		ON H <sub>2</sub> O feeding
	WRSP	1	lee		flying round sooty
1253	RBTB	1	SW		FLUSHED - AD

Virtually every sighting since 0945 has been in forward starboard quarter. Extensive searching to port and starboard near quarter seldom produced a sighting.

MD - 1 -  
SS - 38 -  
SW - 4 -  
WRSP - 1 -  
JSA - 2 -  
PINK - 1 -  
STORM - 1 -  
WRSP - 1 -  
GAT - 1 -

1240 CLEAR SKY





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Date 15 SEPT. 1967  
Pg. # 3

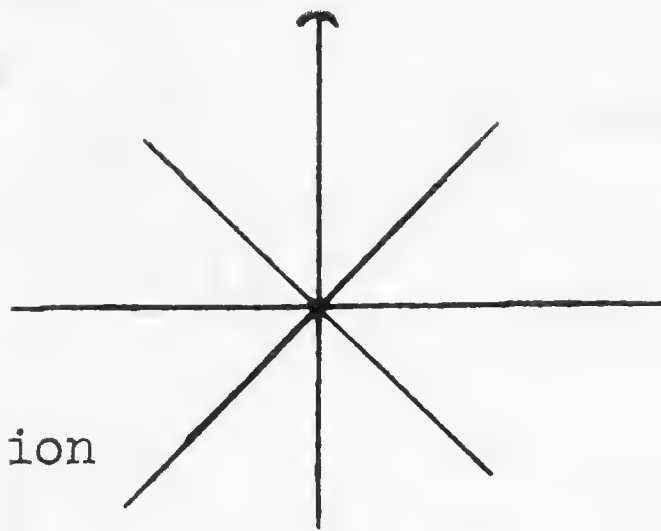
SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1258	Sooty SH.	1	S	ON PORT SIDE
1300	" "	1	ca	flushed
1310	" "	1	ca	affected by ship → W
1403	" "	11	S	In a definite flock - very tightly associated.
1414				floating large bladder kelp.
1425	Dove M	1	888	
1449	Sooty Shear	1	S	
1515	"	1	S	
1532	"	1	S	
1536	Gaeger	1	SE	for off ca 300 high.
1538	Sterna	2	S	for off.
1539 - 1605				Man overboard all stop.
1619	Sooty SH	1	S	
1643	Storm Pet	1	S	
1700	Sooty SH	1	S	
1725	Storm Pet	1	SW	
1726	Sooty sh	1	SW	
1730	Storm Pet	1	S	This one seemed perhaps slightly larger - flew steadily, directly, with little flitting or deviation from course.
1734	Storm Pet	1	SW	This one darted side-to-side continuously - flitted - seemed smaller than 1730 one.
1830	Sterna	3	S	Sterna Rel 3
1910	Black Petrel	1	888	
1912	St Pet	2	888	Came close - large, fluffy flight.
1915	"	1		possible black.
1920	"	1		Came close Black Pet Rel 2
1915	"	1		" " Rel 2
1925	Storm Pet	1	888	Sooty Shear Rel 3 - Reported by Johnson
1925				Sunset - close obs



Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

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SPECIMEN  
or

NOCT  
GRID

Date 16 SEPT. 1967  
Pg. # 1

TIME SPECIES # DIR. BAND NO. REMARKS

0330

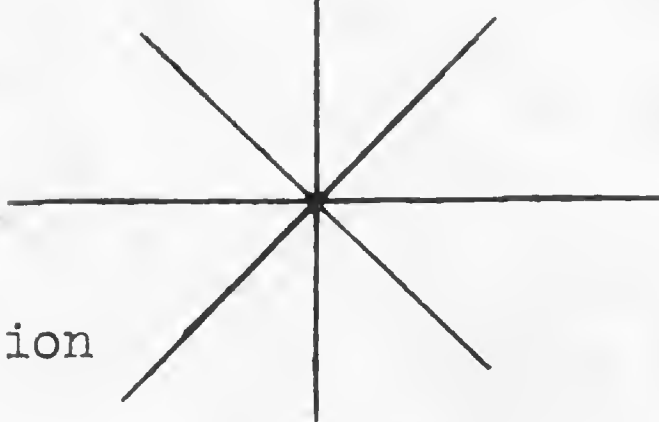
BEGIN OBS - NEAR FULL MOON 10 (OR LESS)  
KNTS NNW WINDS CALM SEAS  
SCATTERED CLOUDS  
MOONSET 0508  
NO BIRDS SEEN  
CLOSE OBS.

0530

W - changed to S 0845

OBSERVERS:

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

SPECIMEN  
or

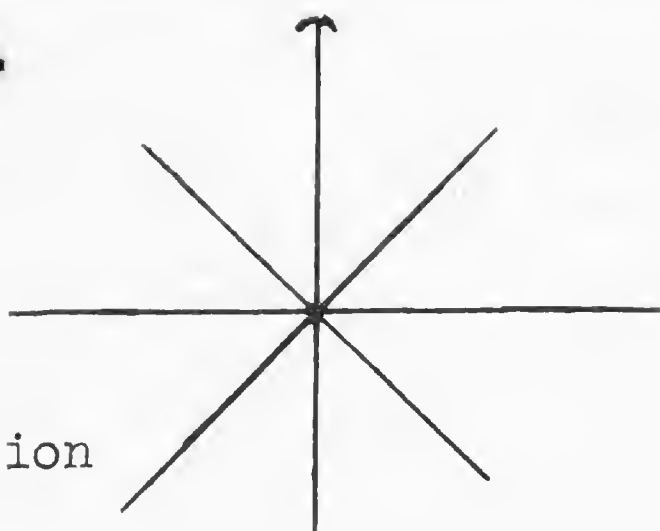
Date 16 Sept. 1967  
Pg. # 1

TIME SPECIES # DIR. BAND NO. REMARKS

0705					Sunrise — begin obs — 2/10 cu — nice sunrise — wind NW — light
0705	Jalger sp	1	SE		
0707	BFA	2			Following
0817	Porpoise	8 ± 3	S		Distant — not <del>fully</del> fully out of water — no response to ship. Could be Delphinus, but no good marks — dorsal fin correct shape and dark. — Nothing riding bow wave now.
0823	Porpoise	8 ± 3	N		Same size group — same as 0817 bunch? — Passed northward directly under bow, but did not stop to ride bow wave — Could see backs only — behaved just like 0817 group — <del>Make</del> Made good size splash despite coming only partially out of water. Headed directly north away from ship, so couldn't get good <del>the</del> side view of dorsal fin.
					Gad! — what a beautiful day for everything except birds
1045	B.F.Alb.	3			— now following
					About 12 logs, etc., passed by during the morning.
1230					Sperm whale — 4+ — blew repeatedly then
1345					flushed & sounded.
1400					C/c to 40°
1405	Erolia melanotos	3	SE		Fluctuating logs abundant — ca 10-15/hr.
1456	— 10/10				Petrel Rel 2 — (collected <sup>for</sup> <del>collected</del> <sup>show</sup> <del>show</del> collected) 140076
1600					M.O.B. Drift — a 11 — log
1602	WRSP	1	SE		PORPOISE ca. 200 HEADING NW DISTANT (4-5 mi.) DELPH?!!
1712	WRSP	1	all		
1925					Sunset — close obs

JSP - 1  
Pett spp - 3  
WRSP - 2  
TW

Ship  
Direction



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

DeLong  
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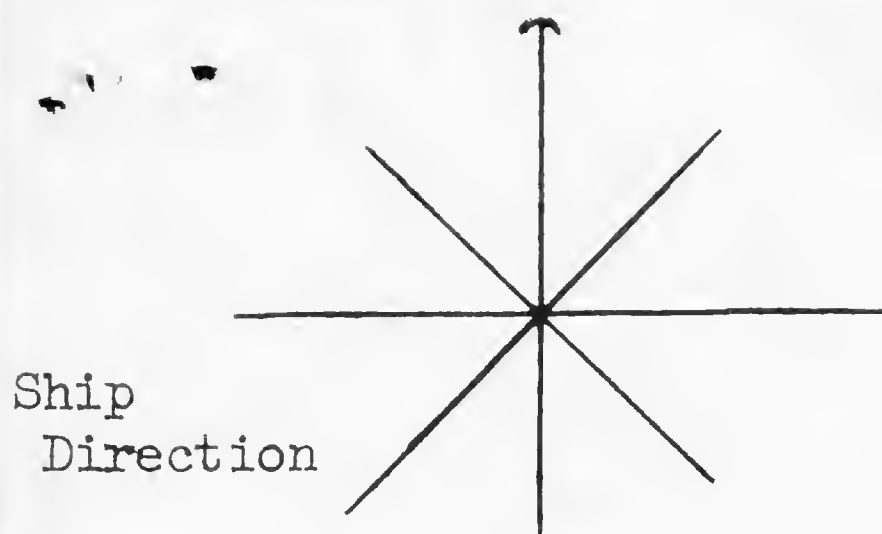
Date 17 Sept  
Pg. # 1

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0657					SR
0715	Storm Pet	1	888		Leads type - still too dark to see spec color.
0720					
0725	WRBTB	1			Wholes 2+ sperm Pet 3. Blows uneven irregular.
0740	Murrelet				Flying above muck - adults long trail from
	Murrelet	1	888		Very thin - no landing attempts.
0812					Delphinus - ca 35 ± 7. - Far out.
0830	Storm Pet	1	888		
0915					No BFA's since Sun Rise
0945	BFA	(1)			First bird appeared
1015					Delphinus 6-8 spread out moving north, movement direct and confusing in that they surfaced like Dells (Phocovidae) during this movement. They then surfaced typically.
1020	Birds?				Assumed to be flocky small birds flying near surface of water and suddenly disappeared - possible flying fish or Phalaropes.
1040	Storm Pet.	1	888		feeding.
1052					first floating Kelp - Nereocystis - well decomposed.
1101	Storm Pet	1	888		flying over small slick.
1110	Bird sp.	1			Sitting on a long log - Far out and presented only head-on profile. appeared dark in color - possible Jaeger or large shore bird.
1115					Delphinus 25 ± 5 moving N. One animal with white blaze in Dorsal.
1120	WRSP	1	888		





SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

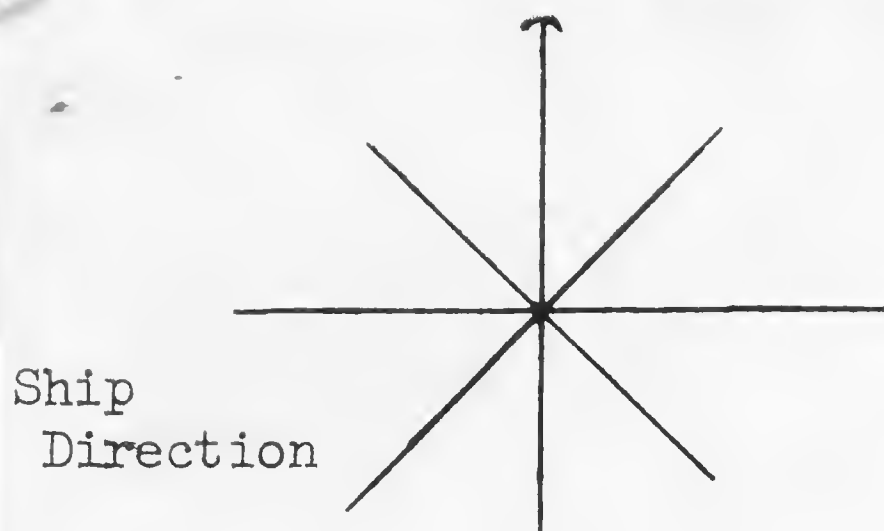
Date 17 Sept  
Pg.# 2

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

1120	Sooty Shear	1	SK		
1121	WRSP	2	SK		
1126	Storm Pet	1	SK		1 each type.
1128	<del>Delph</del>				Delphinus ca 10 N
1132					
1137	<del>WR</del> RBTB	1			Delphinus ca 22 ± 4 -
1140	M. Dove.	1			Sitting on water - adult.
1218	RBTB	1			circled ship
1330	Red Phalarope	1	dk		flushed from water nearby - adult
1331	" "	1	dk		seen & heard
1339					mahi mahi near & cutting kelp mass
1440	WRSP	1	N		
1444	WRSP	1	N		
1502	Erolia melanotos	1	SK		calling - single note, broken once or twice in the middle, but not broken enough to be different syllables.
1520	Whale	①			Spouted twice - Long back broke surface once, but no flukes seen - spout broad, misty, without central core.
1630					2 whales like above? close 3-400 yds
1630	WRSP	1	ce		HUMPY REL 2
1632	BIRD	1	ce		dist.
1645	REDPHAL	1	ce		sitting on log next to driftwood
1653					red on rump
1714	WRSP	1	ce		WHALE DIST. BLOWS LINE 1630 OBS.
1734	SOOTY SHEAR	1	S		
1738	BFA	①	ce		astern
1750					Change course to S. heading
1900	PAR. REG.	1	S		
1906	PECT. SWOPPER	1	ce	140076	LT PH ad
1908					circled ship 1 call above holo deck - chon

C



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SPECIMEN  
or

Nocturnal

Date 17-18 Sept  
Pg.# 1

TIME SPECIES # DIR. BAND NO. REMARKS

0415

begin obs.

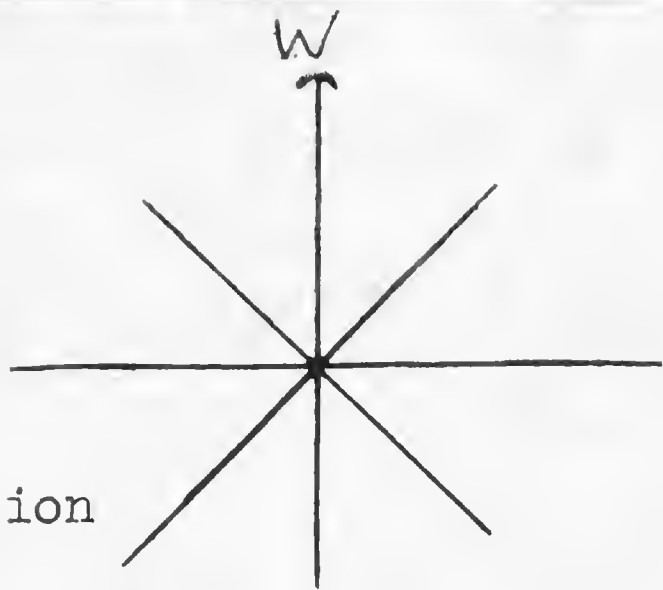
Moon very bright - No clouds.

Wind up to 25 knots @ 310°

0530

obs.

No Birds.



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date 18 Sept 67  
Pg. # 1

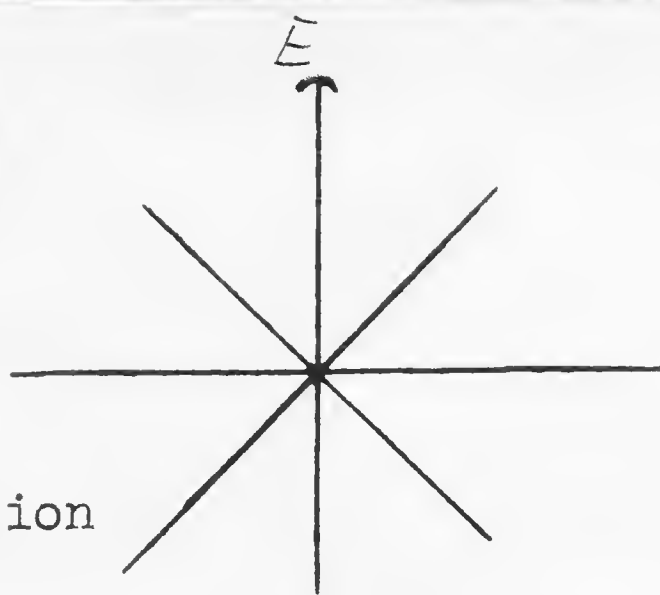
SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0655					Begin Obs. - heading into strong NW wind - obs. hampered.
0658	Sooty Sh.	1	S		<del>Heating</del>
0713	Sooty Sh.	1	SW		Arising to 30' in strong wind... No wing flaps in 30 seconds of obs.
0719	BFA	(1)			Following
0744	Sooty Sh.	1	SW		Birds passing <sup>on</sup> starboard side and across bow - Could be actually heading S and diverted by ship to SW - But still going SW as long as can be followed on port side.
0810	Sooty Sh.	2	SW		
0820	Sooty Sh.	2	SW		
0821	" "	1	"		
0824	" "	1	"		
0834	" "	2	"		
0840	Storm petrel wh. rump	1	W		
0853	Sooty Sh.	1	SW		
1138	Pink-ft Sh.	1	S		Rel. 2
1140	BFA	(2)			Following
1313	SOOTY SH.	1	SW		
1430	" "	1	SW		
1650	NEW ZEAL	1	W		CLOSE TO SHIP "W" - BACK PATTERNS arising
1650	BFA	(3)	W		
1655	SAKAS P.	1			dist, glimpsed probably Sooty
1656	SOOTY SH.	1	SW		arising to 50'
1700	TERN SP	4	W		no dir. messing around in one spot. prob. arctic
1712	" "	5	S		prob. not 1700 BIRDS
1804	Sooty Sh.	1	S		Arising high.
1815	" "	1	S		
1828	" "	1	S		arising high
1910	Storm Pet	1	SW		
1911	Sooty Sh.	1	SW		no arising
1925					SS - close obs.

SS-19  
WASP-1  
Pinn-1  
NZ-1  
SA SP-1  
TERN-9  
STORM-1





Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

RL Pyke

Date September 19, 1967  
Pg. # 1

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

0711					Sunrise - begin obs. - $\frac{3}{4}$ cu & stratocu - wind still strong from NW - but obs. conditions better than yesterday <del>as</del> because of easterly heading.
0720	BFA	3			Following.
1330	TWEET BIRD	1	000		SMALL, SPARROW-BROWN
1414	TERN SP	2	S		ARC ??
1425	ARCTIC TERN	2			SITTING TOGETHER ON SMALL LOG, SHORT LEGS
1530	WRSP	1	800		GRAY WASH AND DARK RED BILLS SEEN VERY CLOSE TO SHIP BUT DID NOT FLY
					Sunset - close obs -

E - change to ~~N~~W 0725

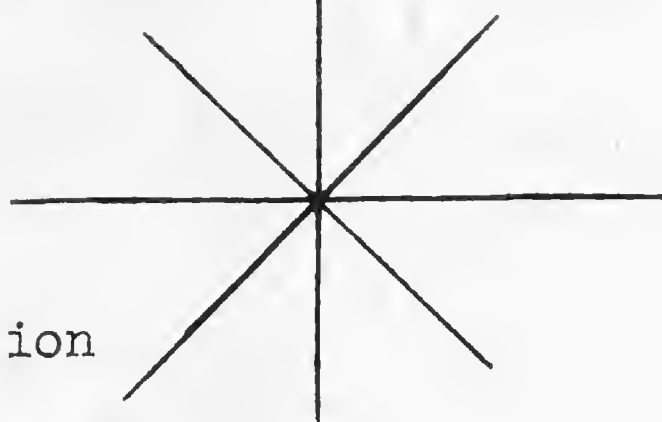
OBSERVERS:

P L Py L 0654-1130

De Long 1130-1440

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

Ship  
Direction

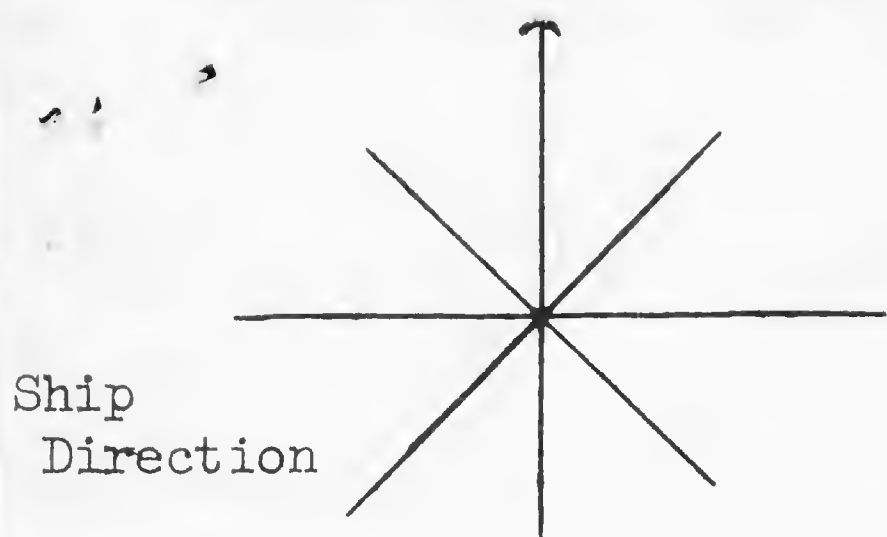


SPECIMEN  
or

Date September 20 1967  
Pg. # 1

TIME SPECIES # DIR. BAND NO. REMARKS

0654					Sunrise - began obs - 7/10 cu + strabo cu - 2/10 alt cu Wind down, sea much smoother
0705	DRSP	1	lee		close to bow
0722	26				Change course to northerly
0741	Sooty Sh	1	SW		
0759	" "	1	SW		
0818	B.F. Alb.	(1)			First sighting this am
0911	M. Dove	1			Landed on helo deck
0920	M. Dove	5			Flock of 6 - prob. includes 0911 bird
0920	Gull	1	lee		Sub adult - <del>Ring-Bill</del> Ring-Bill probably - narrow black tail band.
1005	Western Gull	1	lee		Adult
1028	Sooty Sh.	1	SW		
1030	" "	1	SW		
1043	DRSP	1	SW		
1044	Tern sp?	4	S		Arctic? - <del>drift</del> dipping to water occasionally
1044	Cowbird	1	lee		Landed on deck - imm
1050	M. Dove	1	lee		
1100					Dove + Cowbird flying close together alongside ship for <del>some</del> minutes (seen intermittently) - Both birds seen to divert to follow if the other deviated to one side.
1103	M. Dove	2	lee		May include 1050 bird; cowbird now on deck.
1107	Sooty sh	1	SW		
					No BFA's seen since about 8 <sup>30</sup> .
					1120 - 2 doves + cowbird flying together
1121					Floating blob of kelp - large leaved - no bulbs visible
1127	WRSP	1	SW		Though erratic in direction, bird is still making steady progress toward SW.
1155	Sooty Sh	1	SW		
1220	Cowbird				
1245	"	1		140079	Now 2 on deck.
1250					" 3 " 1 imm coll at 1030
1255	Dove				Seen within 6 - blows of body. one calf.
1310	Proserpine	1			now 3 -
1332	WRSP	1	SW		Warbler like - green - yellow with white under tail feers.
1400	Shorebird	1	SW		
1415	Sooty Sh	1	SW		
1440	R. Phalarope	1	SW		



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

R. L. Duboy 1440-

Date 20 Sep. 7  
Pg. # 2

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
C 1445	Sparrow sp.	1	cell	140078	Came to deck.
1547	Sooty Shear	1	SW		
1700	BIRD	1	cell		WHITE; TROPIC BIRD? GULL?
1745					DELPHINS CA. 30
1748	RBT B	1	cell		rose off H <sub>2</sub> O ad
1750	BFA	(2)	cell		
1802	RBT B	1	cell		ad.
1908					SUNSET CLOSE OBS.
0930	Empidonax	1		140077	Found dead on deck. Dead at least 2-3 days. Suitable for skeleton.

-EMP. sp. - 1

-DRSP- 2

-SS- 8-1 = 7

-MD- 9

-GULL- 1

-WESTG- 1

-TERN- 4

-COW- 3

-WASP- 2

-PASS- 1

-STORM- 1

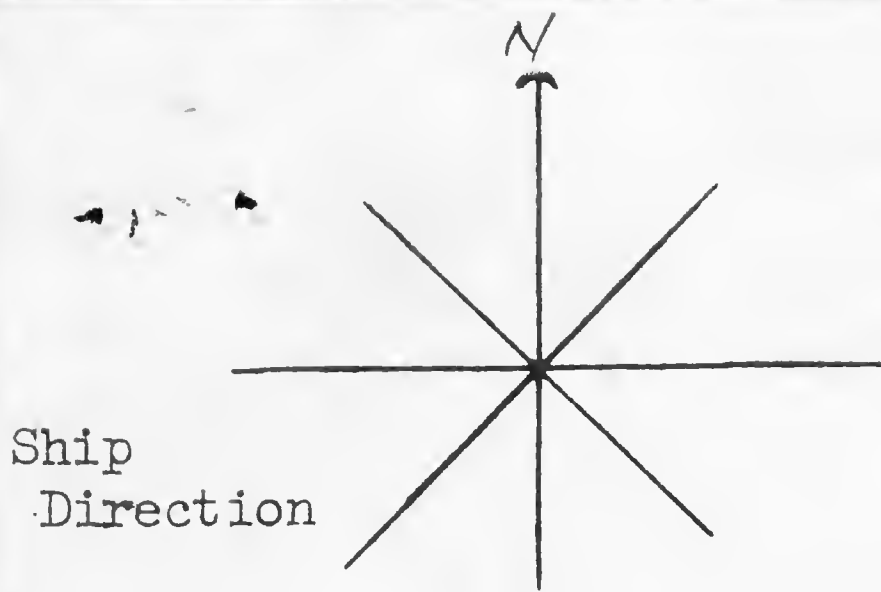
RPAK- 1

-SPOTTED- 1

-BIRD- 1

-BIRD- 1





SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

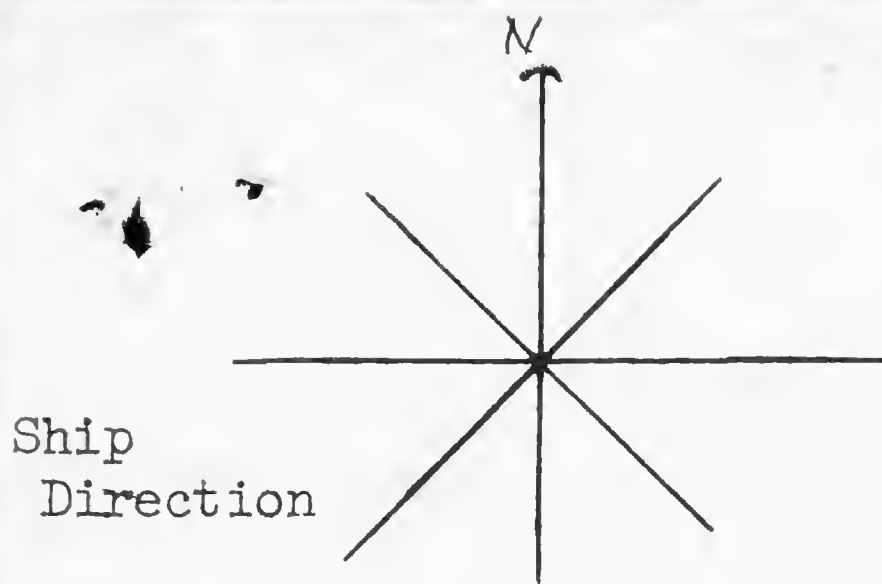
Date September 21, 1967  
Pg. # 1

SPECIMEN  
or

TIME SPECIES # DIR. BAND NO. REMARKS

					Sunrise - begin obs. 8/10 cu, stratus + alto cu. Wind light easterly, sea calm.
0708	B.F.A.	(1)			Following
0722	B.F.A.	(1)			Now 2 following
0739	Red Phalarope	1	lee		seen; calling.
0758	Whale				Reported by bridge - dead ahead - did not show again.
0759	Red Phalarope	2	N		
0802	Delphinus	(15+)	lee		Paralleled ship but didn't ride bow wave - Not tightly grouped - side pattern of Delphinus - dorsal fins were mostly dingy white, with dark leading edge.
0803	Whale?	(1)			<del>Surfaced</del> Broke surface once right where Delphinus had been. Prominent <sup>dark</sup> dorsal fin, shape of Delphinus fin, in middle of back - much larger than Delphinus. Behind it were series of 20' long, narrow "slick" areas - possibly where it had previously approached or broken surface.
	<i>Pseudorca - Rel 3</i> (False Killer whale)				
0815	Red Phalarope	1	lee		Seen; calling
0820					Made 180° turn - start target retrieval exercise.
0825	B.F.A.	(3)			now following
0837	Cowbird - ?	2			Not seen to settle on ship.
0849	Storm Pet.	1	lee		
0900	Par. Jaeger	1	SE		lt. phase - no elongated tail feathers visible.
0925	M. Dove	(1)	lee		
0954	M. Dove	6	lee		Thunderstorm to NE - 3-4 miles. Occ'l thunder + lightning - <del>thunder</del> during last 45 minutes. - Few drops rain occ'l intervals to 1115.
0959	Vesper Sparrow	1			Alighted momentarily on helo deck fence. White outer tail feathers, chestnut shoulder patch, head + bill pattern all seen clearly. Several more close views - to 10 ft. No sightings after 1015.
1035	M. Dove				1 - perhaps one of 0954 bunch.
1102	Porpoise/dolphin				Probably 2 - playing very quietly beneath surface - about 30 yards from boat. Dorsal fin exposed much of time (occasionally 2 fins), but hardly rippled surface of smooth water. Dorsal fin mostly white with narrow dark edges. Observed for 3-4 minutes.
	<i>Pink Polka - ocean sunfish</i>				
1110	Warbling Vireo	1			Caught insect on helo deck - perched on guard fence to eat it. No wingbars - broad eyeline - dark eye - yellowish wash upper breast.
1113	M. Dove				1 still about ship - seen repeatedly since 1035.
1110					Abandon target - Underway toward north. SI-MNH-958-e Zero miles traversed since 0820 Rev. 5-66

Maneuvering



Ship  
Direction

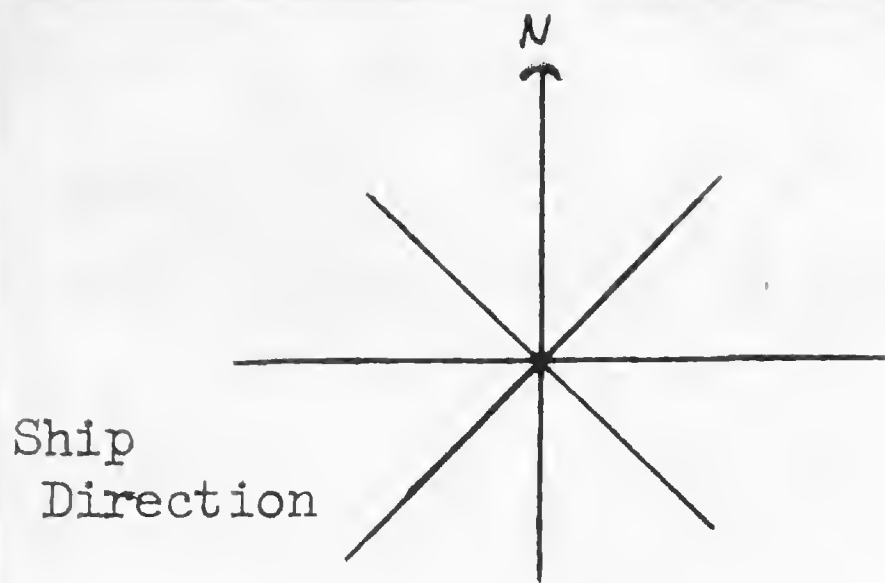
SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Date September 21, 1967  
Pg. # 2

SPECIMEN  
or

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1115					Thunderstorm still to SE. A nother rain area to NW. No rain now at ship. <del>thunder</del>
1138	M. Dove	(1)			Now 2 together
1238	SOOTY SH.	1	W		
1240	PHAL SP	2	ce		on H <sub>2</sub> O.
1242	TERN SP	1	S		art.?
1250	XANT. MORN	1	ce		flushed, calling - a chipping
1251	SOOTY SHEAR	1	W		
1251	STORM PET	1	ce		
1319	JAE. SP.	1	SW		
1322	SOOTY SH.	1	W		
C 1327	M DOVE	(1)	ce	140080	1 COLL ON DECK CHAIN
1328	WARBLER	1	ce		alighted briefly
1406	STORM PET	1	ce		
1415	JAE. SP	1	ce		
1419	STORM PET	3	ce		
1419					PORPOISE 1 SEEN BRIEFLY A DORSAL
1425					15 RISSO DOLPHIN FOLLOWED FOR 15 MIN
1430					DEPART GRID 35°00'N
					WARBLER - 1
					STORM - 2
					R PHAL - 4
					CEW - 2
					STORM - 6
					PART - 1
					M DOVE - 6
					W. SP. - 1
					W. ALB - 1
					CE - 3
					PHAL - 2
					TERN - 1
					XANT - 1
					31 ✓



SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

SPECIMEN  
or

NON GRID

OBSERVERS:

Date 21 SEPT. 1967  
Pg. # 3

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
1430					BEGIN NON GRID OBS.
1445	WR. STORM PET	1	CEE		
1511	Par? Jaeger	1	S		1+ phase - Rel. 2
1531	Tern - sp	13	S		{ Distant - in sun. - Terns strung out - Jaeger below. 13 counted - could have been more present
	Jaeger sp	1	S		
1542	Jaeger sp	1	S		Distant
1543	Pomarine Jaeger	1	SW		<del>Jaeger</del> - Good central tail feathers
1543	Jaeger sp	1	LEE		Distant
1556	Tern/Jaeger	5	S		Very distant
1630	B.F. Alb.	2			following
1633	WRSP	1	CEE		
1640	WRSP	1	LEE		
1653	Sterna	1	SE		Fairly close - Common or Arctic
1700	Storm pet	1	E		Making steady progress eastward
1722	Tropicbird.	1	CEE		Red-billed?
1723	Tern - sp	1	E		- Skema.
1724	Red Phalarope	1	LEE		
1737	Skua/Jaeger	1	E		IF the latter only a dark phase Pomarine would approach the size. R.P. 1
1745	Pomarine	1	SE		
1750	Pomarine	1			Finn - intermediate phase.
	WRSP	1	SE		on water
	Skua	5	SE		flying <sup>around</sup> Jaeger
1758	Sterna	1	SW		" "
1801	Jaeger sp.	2	SE		Far off.
1818					large bill fish leaping clear of water
1822	Jaeger	1	SE		Ca 2 miles ahead - Sound as usual.
1823	Tern	2	SW		- Lt + Vh.
1828	Tern	2	S		Small Arctic
1831	Lt Jaeger	1	S		
1834	Pom. Jaeger	1	SE		Rel 2 Lt phase
1846	Storm petrel	1	W		- Rel 2 - Lt phase
1850	Storm petrel	1	E		
1851	"	1	E		
1853	"	1	W		

WRSP - 4

PARJ - 1

TERN - 20

J.S.P. - 9

Pom.J - 4

BIRD - 5

BFA - 2

STORM - 10

TRIP - 1

LTS - 1

PHE - 2

60





SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

OBSERVERS:

Date Sept. 21, 1967  
Pg. # 4

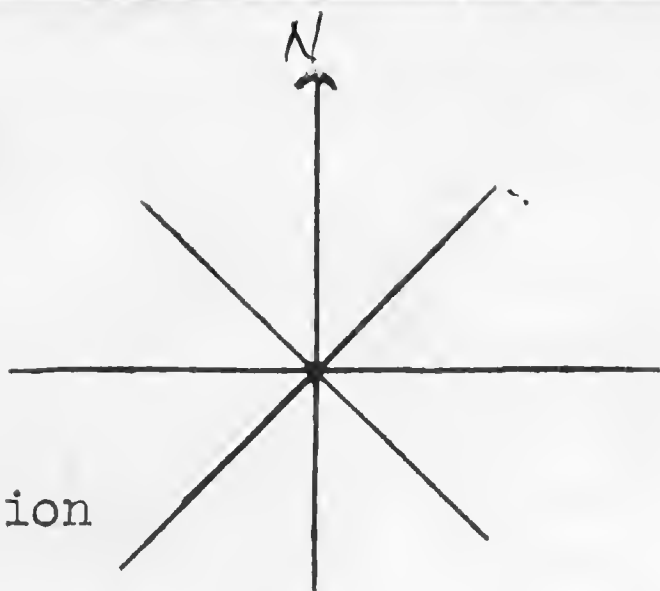
SPECIMEN

## Non-Grid

or

[illegible]

SI-MNH-958-e  
Rev. 5-66



Ship  
Direction

SMITHSONIAN INSTITUTION  
DIVISION OF BIRDS  
AT SEA DAILY LOG - E

SPECIMEN

or

DIR. BAND NO. REMARKS

OBSERVERS:

Date Sept. 22 '67  
Pg. # 1

*Non - Grif*

TIME	SPECIES	#	DIR.	BAND NO.	REMARKS
0720					Begin obs - Cloudy, misty - water slick smooth
0720	M. Dove	6	W		Ship proceeding not over 5 knots
0721	Gull sp	3	W		following ship
0720-30	Sooty Sh	40±	W		
	Pink-foot Sh	2	W		
0722	Warbler				collected on deck - RLDoloug
0730	Heermann Gull	3	W		
0734-35	Sooty Sh	28±			
0740-42	Sooty Sh	50±	W		
	Gulls - sp	8±			includes at least 3 Western
	Aleut - sp	1			
0748	Shorebird sp	6			Flying with the 6 Doves - distant
	Sooty Sh.	4			Sooties going by in spurts - 20-40 in sight at once - then none for a few minutes
0748	Pelican	1			
0752	<del>Phalarope</del> sp 2				raised from water
0754	Phalarope sp	15			On slick with debris
0757	B. Pelican	1			
0800					
0815	Wilson Warbler	1 - collected			
0830	Yellowthroat	1			
0830	Orange-cr. Warbler 2	1 coll. 0845			
0848	Tattler	1			
0852	Murre	3			
0915	Murre	4			
0930	Aleut	1			Dark to waterline, heavy bill - Tufted Puffin? Rhino Auklet?
0935	Rhino Auklet	3			Two pale streaks visible on head, heavy bill with some color
0935	Murre	17			
	Wh-crowned sparrow	1			collected R. DeLong
0945	Cormorants	6			Later in morning, some cormorants identified definitely as
0945	Murre	8			Brandt. No Pelagics definitely identified.
1000					Close obs.
					Murre - most abundant bird in late morning -
					Sooty Sh - Only few scattered individuals after 0900.

E.A.C. CRUISE DATA

SHIP

A. S. Hall 384-40 DATE 11 Sept. 1967

TIME

LAT.

LONG.

SUNRISE

SUNSET

1907

33°11'N

118°37'W

TOTAL MILES TRAVELED SUNRISE TO SUNSET 77 miles From Point Loma

POSITION

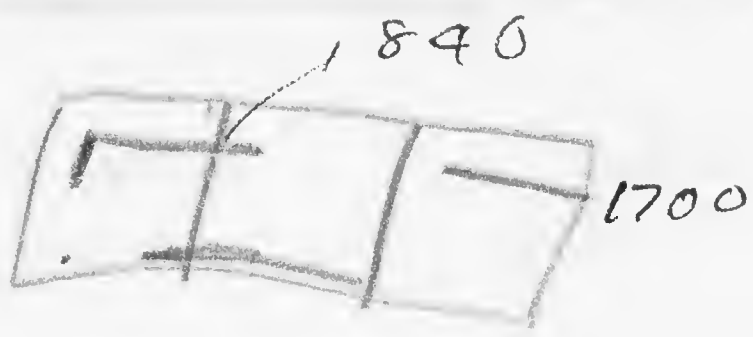
TIME	LAT.	LONG.
0400		
0600		
0800		
1000	Underway From Pier	
1200	32°40'N	117°23'W
1400	32°48'N	117°45'W
1600	32°56'N	118°04'W
1800	33°06'N	118°24'W
2000	33°14'N	118°45'W
2400	33°30'N	119°26'W

COURSE OR SPEED CHANGE

FROM	TO	(AT)	LAT.	LONG.

Note: On Cse 295° Proceeding to Pt. Ash





8  
17  
9

E.A.C. CRUISE DATA

SHIP

U.S. Navy 40-40

DATE

12 Sept. 1967

	TIME	LAT.	LONG.
SUNRISE	0642	33°55'N	120°31'W
SUNSET	1920	31-58W	122-27 W

TOTAL MILES TRAVELED SUNRISE TO SUNSET 124

## POSITION

	TIME	LAT.	LONG.
	0400	33° 45' N	120° 08' W
	0600	33° 53' N	120° 28' W
34° 08' 1/2	0800	34° 02' N	120° 49' W
34° 20' 1/2	1000	34° 15' N	121° 04' W
34° 32'	1200	34° 26' N	121-20 W
34° 45'	1400	34° 38' N	121-33 W
35° 00'	1600	34° 52' N	121° 52' W
	1800	34° 59' N	122° 11' W
	2000	34° 58' N	122-34 W
	2400	34° 58' N	123-17 W

## COURSE OR SPEED CHANGE

	FROM	TO	(AT)	LAT.	LONG.
1700	314	270		35-00W	122-00W

124  
82  
102

SHIP

DATE \_\_\_\_\_

SUNSET

POSITION

34<sup>2</sup> 44%

1715

[illegible]



SHIP U.S. Hall 222-40 DATE 17 Sept 67

128

128

128

$124^{\circ} 46'$   
 $124^{\circ} 24'$   
 $124^{\circ} 15' (125^{\circ})$   
 $124^{\circ} 03'$   
 $123^{\circ} 42'$   
 $123^{\circ} 20'$   
 $122^{\circ} 55'$   
 $122^{\circ} 31'$

128

128

E.A.C. CRUISE DATA

SHIP USCGC 1849-40DATE 15 Sept '67

	TIME	LAT.	LONG.
SUNRISE	0649	33°22'N	121°41'W
SUNSET	1925	33°20'N	123°59'W

TOTAL MILES TRAVELED SUNRISE TO SUNSET 117

## POSITION

TIME	LAT.	LONG.	
0400	33-45N	121°22'W	
0600	33-23N	121°39'W	121°42'
0800	33°23'N	121°53'W	122°05'
1000	33°20'N	122°18'W	122°29'
1200	33-20N	122°41'W	122°52'
1400	33-20N	123°02'W	123°11'
1600	33°19'N	123°20'W	123°31'
1800	33 20 N	123°43'W	123°54'
2000	33-20N	124°05'W	
2400	33-20N	124°48'W	

## COURSE OR SPEED CHANGE

	FROM	TO	(AT)	LAT.	LONG.
0118	090	180		34°07'N	121-21W
0530	180	270		33°23'N	121-21W

E.A.C. CRUISE DATA

SHIP A. S. Hall 2774-40 DATE 16 Sept. 67

	TIME	LAT.	LONG.
SUNRISE	0705	33-19N	126-10W
SUNSET	1925	32-30N	125-19W

TOTAL MILES TRAVELED SUNRISE TO SUNSET 119.0

## POSITION

TIME	LAT.	LONG.
0400	33-22N	125-34W
0600	33-21N	125-58W
0800	33-19N	126-19W
1000	33-07N	126-26W
1200	32-45N	126-26W
1400	32-30N	126-22W
1600	32-30N	126-01W
1800	32-31N	125-35W
2000	32-30N	125-13W
2400	32-29N	124-27W

## COURSE OR SPEED CHANGE

	FROM	TO	(AT)	LAT.	LONG.
0810	268	180		33-19N	126-26W
1330	180	090		32-32N	126-26W



E.A.C. CRUISE DATA

SHIP

G.S. Hall (YAG-40)

DATE

17 Sept 67

	TIME	LAT.	LONG.
SUNRISE	0657	32-26N	123-09W
SUNSET	1908	32°16N	121-02W

TOTAL MILES TRAVELED SUNRISE TO SUNSET

$$\begin{array}{r} 117 \\ 25 \\ \hline 92 \end{array}$$

POSITION

TIME	LAT.	LONG.	
0400	32-27N	123-32W	123° 27'
0600	32-26N	123-22W	123° 10'
0800	32-27N	122-58W	122° 48'
1000	32-28N	122-34W	122° 23'
1200	32-29N	122-12W	122° 00'
1400	32-28N	121-48W	121° 37'
1600	32°25N	121°26W	121° 11'
1800	32°24N	121-02W	
2000	32°07N	121-02W	
2400	32°42N	121°23W	

COURSE OR SPEED CHANGE

	FROM	TO	(AT)	LAT.	LONG.
1750	090	180		32°25N	121°02W
2210	180	270		31°44N	121°03W

SHIP

DATE \_\_\_\_\_

	TIME	LAT.	LONG.
SUNRISE	0657	31-38N	122-46W
SUNSET	1925	31°41N	125°07

TOTAL MILES TRAVELED SUNRISE TO SUNSET 122

# POSITION

TIME	LAT.	LONG.
0400	31-41 N	122-12 W
0600	31-40 N	122-35 W
0800	31-39 N	122-57 W
1000	31°38' N	123°19' W
1200	31°38' N	123°44' W
1400	31°39' N	124°05' W
1600	31°39' N	124°30' W
1800	31°41' N	124°50' W
2000	31°41' N	125°12' W
2400	31°38' N	125°57' W

## COURSE OR SPEED CHANGE

	FROM	TO	(AT)	LAT.	LONG.
<del>2270</del>	<del>180</del>	<del>290</del>		<del>31-44N</del>	<del>151-43W</del>
<del>67</del>					

E.A.C. CRUISE DATA

SHIP J.S. Hall Yfg-40 DATE 19 Sept 1967

	TIME	LAT.	LONG.
SUNRISE	0657	30°58'N	125°58'W
SUNSET	1915	30°49'N	123°48'W

TOTAL MILES TRAVELED SUNRISE TO SUNSET ~~114~~

114

## POSITION

TIME	LAT.	LONG.
0400	31°10' N	126°18' W
0600	30°57' N	126°07' W
0800	30°51' N	125°46' W
1000	30°55' N	125°24' W
1200	30°56' N	125°02' W
1400	30°55' N	124°36' W
1600	30°51' N	124°18' W
1800	30°50' N	123°59' W
2000	30°49' N	123°38' W
2400	30°51' N	122°52' W

124.27

## COURSE OR SPEED CHANGE

	FROM	TO	(AT)	LAT.	LONG.
0140	270	180		31°36' N	126°19' W
0523	180	090		30°56' N	126°20' W



E.A.C. CRUISE DATA

SHIP

181422/1640 DATE 9/20/67

	TIME	LAT.	LONG.
SUNRISE	0654	<del>30°54N</del> 30°54N	121°43W
SUNSET	1908	32°35N	122°20W

TOTAL MILES TRAVELED SUNRISE TO SUNSET 103

## POSITION

	TIME	LAT.	LONG.
	0400	30°55N	122°12W
30°54'	0600	30°59N	121°42W
31°12'	0800	31°04N	121°33W
31°28'	1000	31°19N	121°41W
31°46'	1200	31°37N	121°50W
32°02'	1400	31°54N	121°58W
32°18'	1600	32°09N	122°07W
32°33'	1800	32°26N	122°14W
	2000	32°40N	122°24W
	2400	33°14N	122°45W

## COURSE OR SPEED CHANGE

	FROM	TO	(AT)	LAT.	LONG.
0728	090	336		30°59N	121°30W
0215	336	003		33°33N	122°56W

SHIP AS Hall 40 DATE 21 SEPT. 1967

TOTAL MILES TRAVELED SUNRISE TO SUNSET 88

TIME	LAT.	LONG.
0400	33°47'N	122°55'W
0600	34°09'N	122°54'W
0800	34°24'N	122°50'W
1000	34°28'N	122°51'W
1200	34°38'N	122°50'W
1400	34°56'N	122°52'W
1600	35°16'N	122°46'W
1800	35°35'N	122°47'W
2000	35°48'N	122°47'W
2400	36°18'N	122°47'W

[illegible]

Sept

22

200

36 36

122 43

400

36 55

22 39

600

37 13

22 36

700

37 22

22 34 1/2

800

37 32

22 33

900

37 41

22 28 1/2

1000

37 50

22 30



USS Granville S Hall  
 Eastern Grid Survey No BE 13.

9 Sector Crossing Points

POSITION		TIME	DATE
35-00	122-00	1700	12 Sept '67
35-00	122-40	2030	12 Sept '67
35-00	124-50	0840	13 Sept '67
34-10	124-50	0633	14 Sept '67
34-10	122-40	1814	14 Sept '67
33-45	121-20	@ 0150	15 Sept '67
33-20	122-40	1159	15 Sept '67
33-20	124-50	0010	16 Sept '67
32-30	124-50	2209	16 Sept '67
32-30	122-40	0946	17 Sept '67
32-05	121-00	2015	17 Sept '67
31-40	122-40	0635	18 Sept '67
31-40	124-50	<del>1205</del> 1801	18 Sept '67
30-50	124-50	1305	19 Sept '67
30-50	122-40	0005	20 Sept '67
<del>29-50</del> 31-00	<del>121-00</del> 121-33	0728	20 Sept '67

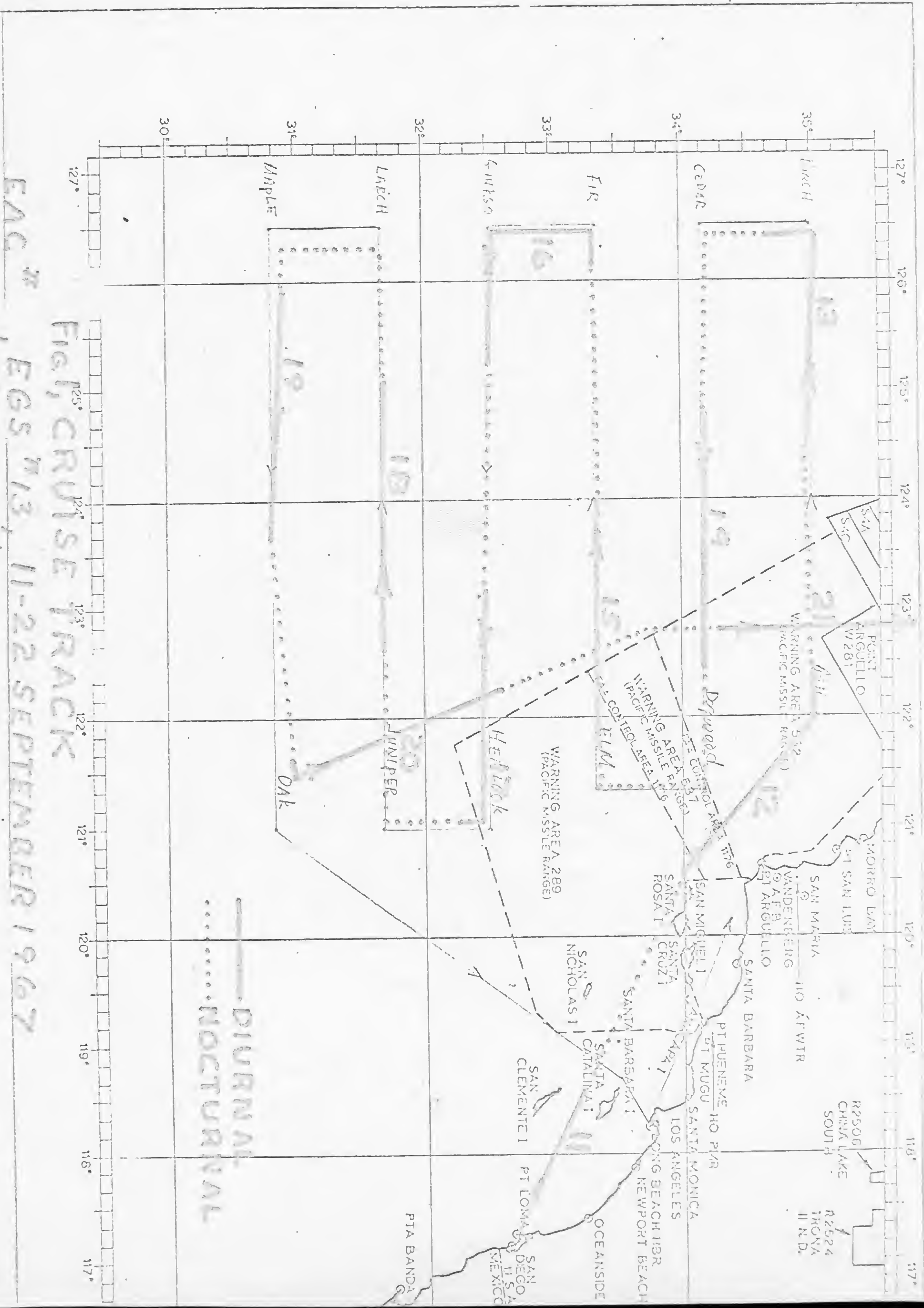


Fig 1, CRUISE TRACK  
EGS 113, 11-22 SEPTEMBER 1967

DIURNAL  
NOCTURNAL

PRELIMINARY REPORT

EASTERN AREA CRUISE NO. 24

11-22 September 1967

including

EASTERN GRID SURVEY NO. 13

Prepared by

Richard D. Chandler



Preliminary Report  
Eastern Area Cruise No. 24  
11-22 September, 1967  
including  
Eastern Grid Survey No. 13

Prepared by  
Richard D. Chandler

Cruise Itinerary: 11 September 1000 - Depart San Diego  
12 September 1700 - Enter Grid at Point "Ash"  
21 September 1430 - Depart Grid at 35°00'N;  
122°50'W.  
22 September 1300 - Arrive Alameda  
(Times: +7 - Tango)

Survey Personnel: Robert DeLong (Biologist-in-charge),  
Dr. Robert Pyle, Richard Chandler

Methods: One and/or two man diurnal observations were made from the helicopter deck when weather conditions permitted. During high seas, rain, or high wind (less than 10 percent of the diurnal hours) the watch was held from the lee wing of the bridge. Nocturnal watches were held on the lee quarter deck. Birds were collected from the skiff on 13 September. Several birds were shot as they attempted to rest or land on deck. B-T casts were made at 2-hour intervals from 0400-1800 and at 2400. Other methods and procedures followed those established on previous cruises.

Cruise Track: (see photo-reproduction and Figure #1).  
Cursory observations taken on the afternoon of 11 September northwest of San Diego are the first taken over this track but may be compared to the winter observations on EAC #1. The Non-grid portion of the 12th of September approached to within 25 miles of the grid area (Point Dogwood) and, since the grid track around points "D" and "E" was traversed at night, are useful in interpreting the actual grid data. (See particularly Sooty Shearwater). The nominal grid track was covered with the exception of 20 miles of the southwest corner and the 20+ miles west of Point Oak. Portions of two days, 20 and 21 September, were spent in the grid but not on the nominal track. These non-track sections have been combined

with the nominal track breakdowns and tables. Cursory non-grid observations taken south of the San Francisco Bay area on the 22nd are discussed here but have not been entered on ADP forms.

Excellent cooperation was received from Captain Kaiser, the deck force, weather and B-T personnel, and all concerned with the operation of the Granville Hall.

Conditions:

Weather and sea surface conditions were, in general, quite variable during the cruise. Over the first non-grid leg winds were low to moderate from the north and northwest, with partly cloudy skies and occasional squall areas. The northern third of the grid area was very good for observations with light north or northwest winds, partly cloudy to obscured sky and calm or light seas. Occasional patches of low fog on the morning of the 14th is a phenomenon not previously noted (since at least EGS #6). High winds and broken skies on the 15th gave way to clear and calm on the 16th. Moderately poor conditions on the 17th, 18th, and 19th calmed to fairer weather for the last three days. Patches of heavy fog and calm seas were present out of San Francisco on the 22nd. "Slick" areas were found on the 12th, 13th and 16th. Many logs and floating debris were seen on the 16th. No Velella were seen; kelp was not much in evidence. A near full moon and clear skies made for poor nocturnal observing conditions.

The data totals, tables, and statistics for this cruise differ from previous surveys in that Black-footed Albatross observations are excluded. Albatross data are discussed only in the Species Account section.

Eastern Grid Survey # 13

Over 993 miles and 108.4 hours of diurnal observations, 518 birds of 27 species were recorded. Twenty-five birds of at least two species were recorded over 79 miles of nocturnal watch. Fifteen specimens of five species were taken (see Summary Tables 1-4).

Salient Highlights

- 1) High numbers of Sooty Shearwaters moving diagonally southwest across the grid.

- 2) Further decrease of Leach Storm Petrel and Red Phalarope.
- 3) High numbers of Jaegers concentrated in the northeast.
- 4) Arctic Terns passing south through the grid area.
- 5) Numbers of "lost" landbirds.

General:

Eastern Grid Survey #		Overall linear Density
19-29 July	10	.411 Birds/linear mile
8-16 August	11	.756
26 August -		
4 September	12	.404
11-22 September	13	.521
		<hr/> .527 Average.

Sectional average linear density EGS 11, 12, 13:

.629	'	1.242	'	1.580
.123	'	.331	'	.515
.223	'	.214	'	.421

The relatively consistent survey densities belie the fact that a fairly large general changeover in grid avifauna has occurred from July to September. During the mid-summer surveys (#s 10 and 11) Storm Petrels and Phalaropes accounted for about three-fourths of the total grid birds. During the present survey Storm Petrels and Phalaropes accounted for less than one-quarter of the total. The static summer population of post or non-breeding birds has largely disappeared. In its place migrant species, notably Sooty Shearwaters, Terns, Ducks and various landbirds have appeared.

The bird distribution within the grid has remained about the same, concentrations being found in the north, northeast, and east portions on all four surveys. At least three factors contribute to this general distribution pattern: 1) the proximity to land; 2) oceanographic features; i.e., upwellings and current structure in the associated areas; 3) tendency for migrant species to parallel the coast and thus cross the northeast grid corner. (See Sooty Shearwater; an important exception to the last).

Bathythermographic data were collected and analyzed by Dr. Pyle. The results appear to be quite relevant to certain ornithological features, but will be treated in detail elsewhere.



### Grid Species Accounts

Nine division shorthand notations used here are similar to those discussed in the EGS #10 report.

Black-footed Albatross (Diomedea nigripes) # Obs. = 31.

For the bulk of bird species observed on the grid it is practicable to assume that the sightings correspond to a set of fixed positions and the ship and observer move through this static field without affecting the distribution of the set. All the statistical presentations of the data, in fact, assume this automatically. The albatross data are, however, the glaring exception, and since they are so dissimilar to the remainder of the observations I have eliminated them entirely from the standard tables and tallies.

The albatross data for Eastern Grid Surveys 1-13 are summarized on Charts Numbers 1 and 2 and as follows. One hundred days or parts of days have been spent in the grid area. From 1 to 19 birds were recorded following the vessel each of these days. The maximum daily count, (the highest number recorded in one sighting), is the least subjective datum that can be given for one day's observations. The frequency histogram in Chart No. 1 indicates that the mode for 93 tabulated days is three birds. Due to the skewed nature of the distribution both the mean and median are somewhat higher, 5.4 and 5 respectively.

The numbers in the 13 squares in Chart No. 1 are representations of maximum daily counts for each of the nine grid subdivisions. They were derived fairly subjectively from a rough mean of maximum daily counts recorded in each subdivision. Circled figures indicate areas of higher numbers on each survey. The combined average demonstrates their overall tendency for concentrations in the northeast part of the grid area. Chart No. 2 shows the means and medians of all grid surveys. Between March and July an overall increase is apparent, but scant coverage from late May to mid-July does not document it well. From late July, EGS #10, to the present survey a regular decrease has been well documented. Eastern Grid Survey #1 is the only information available for the months October through January and it suggests that in addition to a summer high there is also a winter peak. In relation to the breeding phenology I offer the following explanation of the bimodal abundance curve. During August, September and October adult birds are in the process of returning to the Central Pacific breeding grounds leaving peripheral areas (such as the Eastern Grid) and resulting in the late summer decrease that is currently underway. At least by early November when most of the breeding population has returned to the islands, I expect the grid numbers to level off. In September most of the immatures have fledged from the breeding grounds and should be showing up off the California coast to produce a winter peak perhaps about December. Evidently there is a decrease after this time due to some factor such as intol-

erable climate, "winter-kill" (?) or a latitudinal shift of some kind. This post-winter decrease of grid birds does not happen to be as sharp as the post-summer decrease. In the spring and early summer adults may be increasing in peripheral areas after breeding, nest failure, during long distance foraging, chick abandonment, etc. These post and non-breeding adults together with whatever remains of the winter non-breeding peak form the summer high. Aside from the intuitive simplicity of this pattern there is little evidence to support it over an alternative hypothesis such as correlation with surface temperature or any other ecological parameter. Two pieces of isolated information do however support the age dependant cycle idea. During EGS #5 in early April, Harrington notes that special attention was given to recording the number of white-rumped (presumed to be adult) birds, and that only one such white-rumped bird was seen. Fifty-four birds were recorded during that survey but there is no reference to how many of these were actually checked. In late July-early August on EGS #10 15 white-rumped birds were recorded among 42 actually checked (32 percent). Further investigation of rump color ratios is needed. Little attention was given to rump color during the present cruise but my feeling is that there were few (less than one-fifth?) white-rumped individuals. The survey-to-survey distribution of albatross within the grid is on the whole too small statistically to infer much. In general though it appears that the pattern of high density in the northeast and low density in the southwest corner holds true when the overall grid density (of albatrosses) is not undergoing a marked change. When rapid rate of change is occurring the pattern becomes confused or shifts to the southwest as in EGS #1. At any rate the static conditions appear to bring the maximum density close to the coast in the northeast corner of the grid.

Sooty Shearwater (Puffinus griseus) # Obs. = 113.

High numbers were moving across the grid along a southwest line which appears to lead from Point Conception roughly toward Christmas Island of the Line Island Chain. This survey's data have been lumped with the data for EGS # 14 and are discussed in more detail there.

Pink-footed Shearwater (Puffinus creatopus) # Obs. = 2.

Pink-foot is by no means a regular grid bird; preferring more coastal waters and being regularly seen around the Channel Islands. It is however often associated with Sooty Shearwater flocks and should be expected wherever sooties are common. One bird was seen on each of the two days that sooties were most abundant (Sections 6 and 8).

New Zealand Shearwater (Puffinus bulleri) # Obs. = 2.

One bird was chased by the skiff in Section 1 and one bird approached the ship in Section 8. All grid sightings to date have been in the west section, mostly in sub-section 1.

Black Storm Petrel (Oceanodroma melania) # Obs. = 5.

All five birds were recorded shortly before sunset on 15 September in Section 5.

# "Leach" Storm Petrels

-- ' ++	1 ' ++ '++	- ' 1' +	1' - ' +
-- ' 1	- ' - ' 1	-- ' -- ' --	-- ' -- ' --
-- ' +	-- ' - ' +	+ ' - ' 1	-- ' -- ' --
,	,	,	,

EGS #	10 - July	11 - August	12 - Aug-Sept.	13 - Sept.
Total				
# Birds	236	400	199	97

Linear Density	.000 - .099	=	--	(double minus)
	.100 - .199	=	-	(minus)
	.200 - .399	=	1	(unity)
	.400 - .599	=	+	(plus)
	.600 - up	=	++	(double plus)

Storm Petrel numbers reached a peak in mid-August and have subsequently been halved twice. In July two density centers were present. In August birds in the southeast corner spread outward to the west and center areas of the grid, gradually dispersed and by September (EGS # 13) appear to have largely withdrawn, probably to the south. This density center I suspect is postbreeding movements of Guadalupe birds and other populations from the upper regions of Baja California. The second high density area was first noted in July around Point "Dogwood" and evidently moved slowly to the north while dispersing slightly westward. This region of density appears to be a fairly stable feature, and is probably partly due to oceanographic features resulting from the proximity to Point Conception.

A general southward movement was noted, (particularly noticeable from skiff observations) during the present survey. Dark-rumped birds were proportionally lower than the preceeding three surveys.



## Red-billed Tropicbird

# Obs. = 6

This is the highest number recorded during any survey to date, and probably represents postbreeding dispersion from breeding localities to the south. In August Red-billed Tropicbirds were present around San Clemente and I suspect the southern Channel Islands vicinity is acting as a subsidiary distribution center at this time. Four birds were recorded in Section 6, the closest Grid area to San Clemente and San Nicolas; and two birds were recorded from the adjacent Section 5.

## Duck sp. (Pintail?)

# Obs. = 42

Two flocks of about 20 each and two sightings of individuals were made in the northern third of the Grid. None of the sightings were seen well but were suspected to be Pintails. Birds showed only a moderate degree of attraction to the ship.

Black Turnstone (Arenaria melanocephala)

# Obs. = 2

One bird was seen near Pt. "Ash." A second bird was identified by call in Section 1.

Marbled Godwit (Limosa pedia)

# Obs. = 1

The single sighting (17 September, Section 5) was noted as being a thin individual. It made no attempt to land on the ship.

Pectoral Sandpiper (Erolia melanotus)

# Obs. = 5 (1 collected)

A group of three birds was seen in the western extremity of the center section (subdivision 4), and two individuals were recorded in the eastern extremity of the central section (subdivision 6). A bird was collected at sunset of the 17th as it hovered close to the helicopter deck.

## Red Phalarope

# Obs. = 13

## Phalarope sp.

# Obs. = 4

Total = 17

-	+	+	++	++	+	++	+	-	+	+
-	+	+	+	-	0	0	+	0	0	-
-	+	-	0	-	-	0	0	0	0	-

EGS #

10

11

12

13

# Obs.

(total Phalaropes)

48

260

81

17

The apparent decrease of this bird on the Grid presents an interesting problem. The relatively high numbers found on E.G.S. in July and August were largely associated with slicks and kelp patches in Sections 2 and 3. These oceanographic features have gradually dispersed or moved

out of the Grid and Phalarope numbers have dropped. The fact that such high densities appeared at all was surprising for the time of year when birds should largely be on the breeding grounds in the north. I feel that these birds were largely nonbreeding birds which were more or less static in the "slick" areas during the summer. The presence on the Grid I attribute to a drifting tendency which brings what is probably an off-shore type of summering population farther out to sea than expected. This past summer's unusual water structures brought these favorable oceanographic features and accompanying Phalaropes out to the Grid. As the slick conditions faded birds may have retreated back towards the coast, producing the decline noted on Surveys 12 and 13.

As yet no southward movement seems to be underway although the expected migration time is approaching rapidly. Thus the Grid data show a decrease when an increase is expected. It is possible that a migration is underway and that it is passing so close to the coast that it is not being detected in the Grid, but the spring data suggest that this is not the case. Future surveys should answer this question. The decrease that has been noted may be only a product of an unusual climate situation peculiar to this year only.

No Northern Phalaropes were seen this survey. Their presence on the Grid in July supports the idea that unusually favorable conditions existed on the Grid during the summer which drew this typically coastal species out to sea along with the unusual numbers of Reds.

Jaeger sp.

# Birds	9	2	2	3	1	6	4	5	14	9	12
Per Section	1	9	3	1	2	1	0	1	1	1	5
	1	1	1	1	0	0	2	3	0	0	0

Total Obs.	23	14	22	42
------------	----	----	----	----

E G S #	10-July	11-August	12-Aug.-Sept.	13-September
		22	16	18
		5	2	8
		1	3	3

E.G.S. ### 11, 12, 13; combined sector addition

Only six birds were identified to species on the present survey but all three species were represented. The northern third contained over 80 percent of the Grid total and these were most frequent toward the coast.

Western Gull (Larus occidentalis)

# Obs. = 1

One adult was seen in Section 9.

Ring-billed ? Gull (Larus delawarensis) # Obs. = 1

A subadult thought to be this species was recorded in Section 9.

Arctic Tern  
Tern sp.

# Obs. = 14  
# Obs. = 86  
Total = 1--

Forty-four Sterna sp. were seen in Section 1 on 13 September. The sightings were groups of 3 to 17 birds heading strongly south. The three birds collected were Arctic Terns and quite surely the majority of the Sterna were this species. Sterna sp. were recorded in the northeast corner and then a large 200-mile gap was crossed (partly at night) in which no Sterna were recorded. The 44 Arctics appeared fairly suddenly at the extreme northwest corner of the Grid. I suspect the Sterna closest to the coast may have included or even been entirely Common Terns, S. hirundo.

Xantus Murrelet (Endomychura hypoleuca) # Obs. = 3

All three birds were seen in the northeast areas. No other Alcids were seen in the Grid.

Mourning Dove (Zenaidura macroura) # Obs. = 23

An increasingly regular element of the Grid avifauna, birds showed a fairly clear cut distribution paralleling the "distance-to-land-line" which runs through the Grid roughly along the heading 140°T (220°T). The offshore limiting distance is about 250-300 miles.

Brown-headed Cowbird (Molothrus ater) # Obs. = 9

Immature Cowbirds appear to be regularly the commonest "pelagic" passerine. The distribution resembles that of Mourning Dove. No sightings were made in the four sections comprising the southwest corner. The fact that this species is parasitic and thusly fairly independent from Learned species typical behavior, is worth some reflection.

Empidonax sp.

# Obs. = 1 (collected)

Warbling Vireo

# Obs. = 1

Warbler sp.

# Obs. = 1

Vesper Sparrow

# Obs. = 1

Sparrow sp.

# Obs. = 3 (2 collected)

Passerine sp,

# Obs. = 2

Total 9



The nine sightings of various "lost" landbirds were mostly in the eastern sections. After the fall migration period is over these interesting landbird records will be discussed more carefully.

Marine Mammals

<u>Species</u>	<u>#</u>	<u>Date</u>	<u>Time</u>	<u>Lat.</u>	<u>Long.</u>	<u>Remarks</u>
<u>Balaenoptera</u>	1	12	1842	34°59'N;	122°19'W	(Spout described) moving south
Dolphin/Porpoise	1+?	13	0659	34°55'N;	124°31'W	"Never a good look"
Porpoise	?	13	0818	34°54'N;	124°48'W	Rep. by bridge
Whale	?	13	0926	34°53'N;	125°01'W	Rep. by bridge
<u>Delphinus</u>	5	13	1342	34°58'W;	125°47'W	Heading west
Porpoise	12 <sup>+</sup> 4	14	0954	34°10'N;	124°16'W	Delphinus? Heading SE
Porpoise	8 <sup>+</sup> 2	16	0817	33°17'N;	126°20'W	Delphinus?
Sperm Whale	4+	16	1230	32°41'N;	126°25'W	Blows, flukes & sounded
Porpoise	ca200	16	1600	32°30'N;	126°01'W	Delphinus? Heading NW
Whales	2+	17	0720	32°27'N;	123°06'W	Sperm?
<u>Delphinus</u>	35 <sup>+</sup>	17	0812	32°27'N;	122°56'W	
<u>Delphinus</u>	6-8	17	1012	32°28'N;	122°31'W	
<u>Delphinus</u>	25 <sup>+</sup> 5	17	1115	32°29'N;	122°20'W	Moving north
<u>Delphinus</u>	10	17	1128	32°29'N;	122°18'W	Moving north
<u>Delphinus</u>	22 <sup>+</sup> 4	17	1132	32°29'N;	122°17'W	
Whale	1	17	1520	32°26'N;	121°33'W	
Whale	2	17	1630	32°25'N;	121°20'W	Humpback?
Whale	1	17	1655	32°25'N;	121°15'W	Humpback?
Sperm Whale	6	20	1250	31°45'N;	121°53'W	Calf seen
Whale	1	21	0830	34°24'N;	122°50'W	Pseudorca?
<u>Delphinus</u>	15+	21	0802	34°24'N;	122°50'W	

Marine Mammals (cont'd)

<u>Species</u>	<u>#</u>	<u>Date</u>	<u>Time</u>	<u>Lat.</u>	<u>Long.</u>	<u>Remarks</u>
Whale	1	21	0758	34°24'N; 122°50'W		Rep. by bridge
Porpoise	1	21	1419	34°59'N; 122°51'W		
Risso Dolphin	15	21	1425	35°00'N; 122°51'W		Followed for 15 min.

NON-GRID MAMMALS

Dolphin	2	11	1715	33°02'N; 118°16'W		Dark above, lite below
Whale	1	12	1210	34°27'N; 121°21'W		
<u>Delphinus</u>	2	12	0735	34°00'N; 120°45'W		

NON-GRID SECTIONS - SPECIES ACCOUNTS

Black-footed Albatross # Obs. = 5

Birds were seen off the edges of the Grid on 12 and 21 September, but no birds were seen on the 11th and the 22nd when within sight of land.

Sooty Shearwater # Obs. = 738

Large numbers were seen heading west towards the Grid from Point Conception. This is discussed further in the report for E.G.S. #14. Birds were abundant on 22 September close to the coast south of San Francisco but concentrated south and movement was not appreciable.

Pink-footed Shearwater # Obs. = 14

Pink-foots were found among the Sooty Shearwater concentrations on 12 and 22 September.

Leach (?) Storm Petrel # Obs. = 28

Birds were fairly common just north and just east of Grid sub section 3. None were seen on the 11th or 22nd near the coast.

Red-billed (?) Tropicbird # Obs. = 1

A tropicbird, doubtless this species, was seen 20 miles north of Grid Section 3.

Cormorant sp. # Obs. = 10

Ten birds, possibly pelagics, were seen south of San Francisco on the 22nd.

Brown Pelican

# Obs. = 24

Only four birds were recorded on the south leg, but many were recorded on the 22nd close to San Francisco.

Duck - Waterfowl sp.

# Obs. = 57

Two flocks (40 & 17) were seen east of the Grid on 12 September. Pintail/Shoveller/Mallard are possible identifications.

Black Turnstone

# Obs. = 1

One bird appeared at sunrise of the 12th east of the Grid area.

Wandering Tattler

# Obs. = 1

Twenty-two September, south of San Francisco.

Red Phalarope

# Obs. = 65

Phalarope sp.

# Obs. = 67

A flock of Reds was seen north of Point Dogwood. Several small flocks of (probably) Northernns were seen associated with floating debris on the 22nd south of San Francisco.

Pomarine Jaeger

# Obs. = 7

Parasitic Jaeger

# Obs. = 2

Long-tailed Jaeger

# Obs. = 2

Jaeger sp.

# Obs. = 29  
40

Total

All the Jaeger sightings were in the Pt. Conception area. The numbers observed are very high compared to other times in the year. Pomarines appeared to be most common.

Western Gull

# Obs. = 137

Birds commonly followed the ship on the 11th and 22nd when close to land.

Heerman Gull

# Obs. = 20

All birds recorded were on the leg just south of San Francisco on the 22nd.

Sabine Gull

# Obs. = 10

Birds were noted only on the southern legs, most within sight of the Channel Islands.



Tern sp.

# Obs. = 72

Sterna of the Common/Arctic type were observed heading south in all non-Grid areas save the short section south of San Francisco.

Common Murre

# Obs. = 100

Rhinoceros Auklet

# Obs. = 3

Pigeon Guillemot

# Obs. - ca. 10

Alcids were regularly seen on the water on the 22nd. Murres, probably from the Farralons, were in partial to full winter plumage.

Mourning Dove

# Obs. = 42

A large flock of 26 birds was present on the helicopter deck at sunrise of the 12th.

Tanager sp.

# Obs. = 1

An orange-red Tanager was shot but lost overboard on the morning of the 12th. It was noted as being more orange/vermillion than normal summer or hepatic.

Ash-throated Flycatcher

# Obs. = 1

Empidonax sp.

# Obs. = 2

MacGillivray's Warbler

# Obs. = 1

Wilson's Warbler

# Obs. = 1

Yellowthroat

# Obs. = 1

Warbler sp.

# Obs. = 3

White-crowned Sparrow

# Obs. = 1

Chipping Sparrow

# Obs. = 1

Passerine sp.

# Obs. = 2

Stray landbird migrants were recorded when fairly close to land on the 12th and 22nd.

TABLE 1. Daily Summary of Observations, Eastern Grid Survey #13,  
12-21 September 1967

<u>Diurnal</u>					
<u>Date</u>	<u># Miles</u>	<u># Hours</u>	<u># Birds</u>	<u># Species</u>	<u>Linear Density</u>
12 Sept.	22	2.4	75	8	3.410
13 "	114	12.6	126	13	2.280
14 "	117	12.4	51	7	0.436
15 "	117	12.6	125	9	1.069
16 "	119	12.2	6	3	0.050
17 "	117	12.2	25	8	0.213
18 "	117	12.2	33	6	0.282
19 "	114	12.3	6	3	0.053
20	111	12.2	38	11	0.342
21	<u>45</u>	<u>7.5</u>	<u>31</u>	<u>11</u>	<u>0.690</u>
Totals	993	108.4	518	27	.521
Aug./Day	99.3	10.8	52	7.9	.883

<u>Nocturnal</u>					
12-13	19	2.0	16	2	
13-14	14	1.5	4	1	
14-15	14	1.5	5	1	
15-16	19	2.0	0	0	
17-18	<u>13</u>	<u>1.3</u>	<u>0</u>	<u>0</u>	
Totals	79	8.3	25	2	

TABLE 2. Summary of Diurnal Bird Sightings, Eastern Grid Survey #13,  
12-21 September 1967

	<u># Obs.</u>	<u>% Total Birds</u>	<u># Specimens Collected</u>	<u>Sera Samples</u>
Sooty Shearwater	113	21.8		
New Zealand Shearwater	2	0.4		
Pink-footed Shearwater	2	0.4		
Shearwater sp.	9	1.7		
Shearwater/Petrel	4	0.8		
Total Shear./Pet.	130	25.1		
White-Rumped St. Pet.	32	6.2	4	1
Dark-Rumped St. Pet.	4	0.8	1	
Black Storm Petrel	5	1.0		
Storm Petrel sp.	61	11.8		
Total Storm Pet.	102	19.7		
Red-billed Tropicbird	6	1.2		
Duck (Pintail?)	42	8.1		
Black Turnstone	2	0.4		
Marbled Godwit	1	0.2		
Pectoral Sandpiper	5	1.0	1	
Red Phalarope	13	2.5		
Phalarope sp.	4	0.8		
Shorebird sp.	2	0.4		
Total Shorebird	27	5.2		
Pomarine Jaeger	2	0.4		
Parasitic Jaeger	3	0.6		
Long-tailed Jaeger	1	0.2		
Jaeger sp.	36	7.0		
Total Jaeger	42	8.1		
Western Gull	1	0.2		
Sabine Gull	11	2.1		
Gull sp.	1	0.2		
Total Gull	13	2.5		
Arctic Tern	14	2.7	3	1
Tern sp.	86	16.6		
Total Tern	100	19.3		
Xantus Murrelet	3	0.6		
"Land" Birds*	41	7.9	6	
Bird sp.	12	2.3		
Total Birds	518		15	2

\*See occurrence of unusual species.



TABLE 3. Summary of Occurrence of Unusual Species, Eastern Grid  
Survey #13, 12-21 September 1967

<u>Species</u>	<u># Observed</u>	<u># Collected</u>	<u>Subdiv.(s)</u>	<u>Date (s)</u>
New Zealand Shear.	2		1 & 8	13 & 18
Black Storm Petrel	5		5	15
Red-billed Tropicbird	6		5 & 6	15, 17, 20
Duck sp.	42		1,2,3	
Black Turnstone	2		3, 1	12, 13
Marbled Godwit	1		5	17
Pectoral Sandpiper	5	1	4, 6	16, 17
Mourning Dove*	23	1	2,5,6,9	14,15,17,20,21
<u>Empidonax</u> sp.*	1	1	?	20?
Warbling Vireo*	1		2	21
Warbler sp.*	1		2	21
Cowbird (Brown-headed)*	9	2	1,2,6,9	13,15,20,21
Vesper Sparrow*	1		2	21
Sparrow sp.*	3	2	1, 9	13, 20
Passerine sp.*	2		8, 9	19, 20

(\* = "Landbirds" - See Table 2.)

TABLE 4. Subdivision Breakdown by Count and Linear Density, Diurnal Sightings of Species and Species Groups, Eastern Grid Survey 13, 12-21 September 1967

	1		2		3		N 1-2-3		4		5		6		C 4-5-6	
Sooty Shearwater	.040	4	.030	5	.031	1	.034	10			.404	38	.224	39	.199	77
Other Shear./Petrels	.030	3			.094	3	.022	6					.046	8	.021	8
"Leach" Storm Pets.	.233	23	.144	24	.437	14	.251	61	.017	2	.085	8	.103	18	.072	28
Black Storm Petrel											.053	5			.013	5
Red-billed Tropicbird											.021	2	.023	4	.015	6
Ducks	.192	19	.132	22	.031	1	.141	42								
Phalaropes	.010	1	.054	9	.062	2	.043	12					.023	4	.010	4
Other Shorebirds	.030	3			.031	1	.013	4	.025	3	.011	1	.011	2	.015	6
Jaegers	.141	14	.054	9	.375	12	.117	35	.008	1	.011	1	.029	5	.018	7
Sabine's Gull					.344	11	.037	11								
Other Gulls																
Terns	.444	44	.024	4	.906	29	.258	77			.053	5	.006	1	.015	6
Xantus Murrelet	.020	2	.006	1			.010	4								
Mourning Dove			.042	7			.024	7			.011	1	.035	6	.018	7
Cowbird	.030	3	.012	2			.017	5					.006	1	.003	1
Other Landbirds	.020	2	.018	3			.017	5					.006	1	.003	1
Bird sp.	.010	1			.125	4	.017	5					.040	7	.018	7
TOTAL BIRDS	1.203	119	.515	86	2.442	78	.950	283	.050	6	.650	61	.552	96		163
# Miles	99		167		32		298		119		94		174		387	
# Hours	10.9		20.5		3.4		34.8		12.3		10.2		18.2		39.7	

TABLE 4. (cont'd)

	7	8	9	S 7-8-9	1-4-7 W	2-5-6 C	3-6-9 E	Tot. 1-9								
Sooty Shearwater	.057	4	.093	15	.091	7	.084	26	.028	8	.138	58	.166	47	.114	113
Other Shear./Petrels			.019	3			.010	3	.010	3	.007	3	.039	11	.017	17
"Leach" Storm Pets.	.014	1	.012	2	.065	5	.026	8	.090	26	.081	34	.131	37	.098	97
Black Storm Petrel											.012	5			.005	5
Red-billed Tropicbird											.005	2	.014	4	.006	6
Ducks									.066	19	.052	22	.004	1	.042	42
Phalaropes				.013	1	.003	1	.003	1	.021	9	.025	7	.017	17	
Other Shorebirds									.021	6	.002	1	.011	3	.010	10
Jaegers									.052	15	.024	10	.060	17	.042	42
Sabine's Gull													.039	11	.011	11
Other Gulls				.026	2	.007	2						.007	2	.002	2
Terns		.081	13	.052	4	.055	17	.153	44	.052	22	.120	34	.101	100	
Xantus Murrelet								.007	2	.002	1			.003	3	
Mourning Dove				.117	9	.029	9			.019	8	.053	15	.023	23	
Cowbird				.039	3	.010	3	.010	3	.005	2	.014	4	.009	9	
Other Landbirds		.006	1	.026	2	.010	3	.007	2	.009	4	.011	3	.009	9	
Bird Sp.								.003	1			.039	11	.012	12	
TOTAL BIRDS	.071	5	.211	34	.428	33	.234	72	.452	130	.429	181	.731	207	.521	518
# Miles	70		161		77		398		288		422		283		993	
# Hours	7.0		17.2		8.7		32.9		30.2		47.9		30.3		108.4	15



TABLE 5. Summary of Non-Grid Observations by Species, E.A.C. 13,  
11-22 September

	11 Sept.	12 Sept.	21 Sept.	Total	Lin. Dens.	22 Sept.*
Black-footed Albatross		3	2	5	.026	
Sooty Shearwater		488		488	2.650	250
Pink-footed Shearwater	1	11		12	.065	2
Shearwater sp.	3	0		3	.016	
White-rumped Storm Pet.		3	4	7	.038	
Storm Petrel sp.		11	10	21	.114	
Red-billed Tropicbird			1	1	.005	
Cormorant sp.						10
Brown Pelican	2	2		4	.022	20
Duck sp.		17		17	.092	
Water Fowl sp.		40		40	.217	
Black Turnstone		1		1	.005	
Wandering Tattler				0	-	1
Red Phalarope		64	1	65	.354	
Phalarope sp.	8	7	2	17	.092	50
Pomarine Jaeger		3	4	7	.038	
Parasitic Jaeger		1	1	2	.011	
Long-tailed Jaeger		1	1	2	.011	
Jaeger sp.		20	9	29	.157	
Western Gull	29	8		37	.201	100
Heerman's Gull				0	-	20
Sabine's Gull	9	1		10	.054	
Gull sp.	2	1		3	.016	40
Common Tern	1			1	.005	
Tern sp.	41	10	20	71	.386	
Common Murre				0	-	100
Rhinoceros Auklet				0	-	3
Pigeon Guillemot				0	-	10
Mourning Dove		36		36	.196	6
Tanager sp.		1		1	.005	
Ash-throated Flycatcher		1		1	.005	
Empidonax Flycatcher		2		2	.011	
MacGillivray's Warbler		1		1	.005	
Wilson's Warbler				0	-	1
Yellow Throat				0	-	1
Warbler sp.				0	-	3
White-crowned Sparrow				0	-	1
Chipping Sparrow		1		1	.005	
Passerine sp.		2		2	.011	
Bird sp.		4	5	9	.049	
	96	741	60	897	4.875	618

Date	11 Sep.	12 Sep.	21 Sep.		11, 12, 21 Sep.	22 Sep.
Time Period	1220-1735	0654-1700	1430-1911			0720-1000
# Miles	39	102	43	184		19
# Hours	4.1	10.1	4.7	190		2.7
Lin. Dens.	2.460	7.260	1.400		4.875	30.3

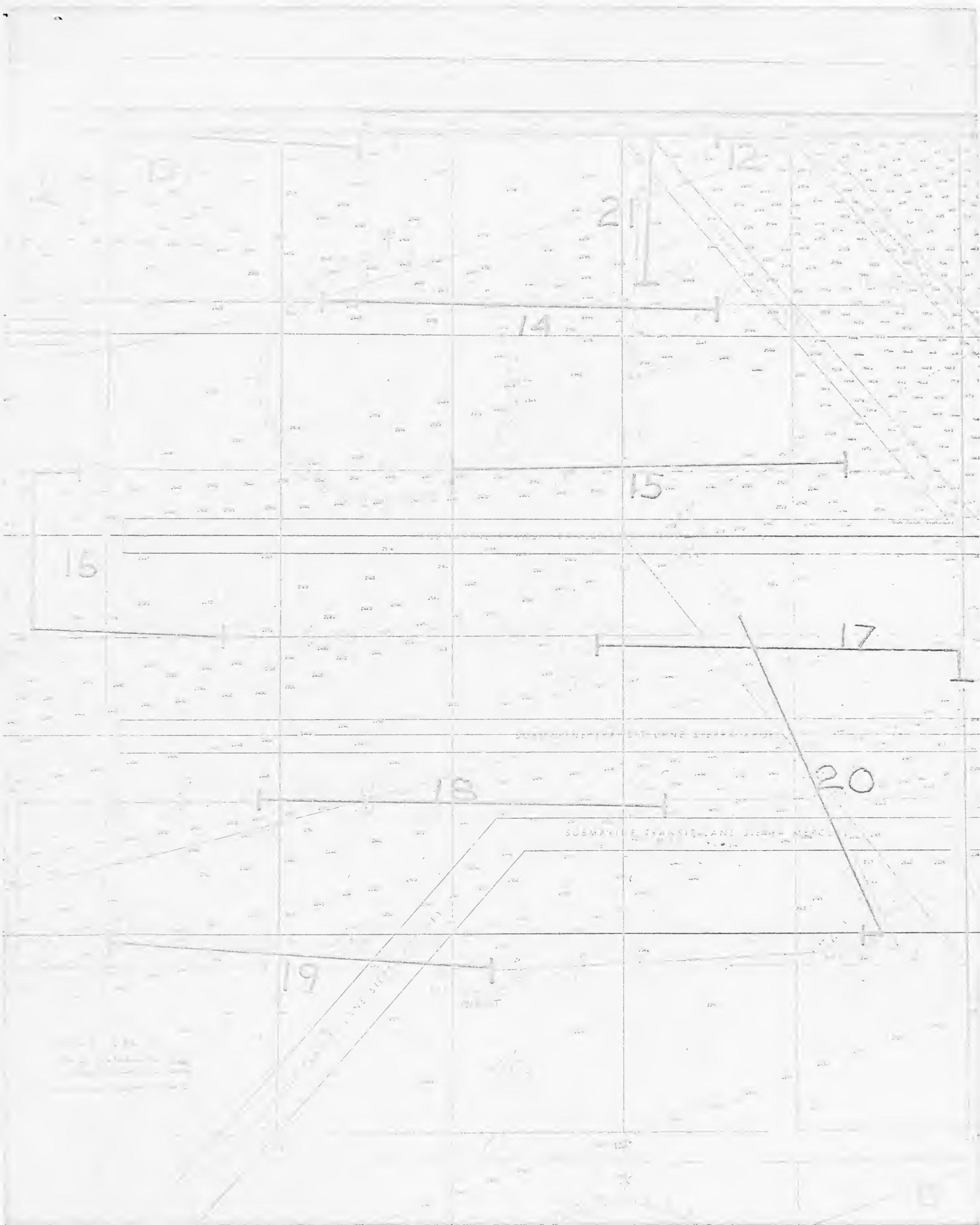
\* Observations on 22 September are rough approximations from casual observations, applicable only to the portion of the track southward from about 15 miles south of San Francisco lightship.

TABLE 6. Summary of Non-Grid Observations by Species Groups, E.A.C. 13,  
11-22 September 1967

Species Group	# Obs.	% Total
Albatross	5	0.3
Shearwater	755	50.1
Storm Petrel	28	1.9
Pelicaniformes	35	2.3
Anseriformes	57	3.8
Phalaropes	132	8.8
Jaegers	40	2.7
Gulls	210	14.0
Terns	72	4.8
Alcids	113	7.5
"Landbirds"	56	3.7
TOTAL	1515	100%

TABLE 7. Non-Grid Collected Birds, E.A.C. 13, 11-22 September

Species	# Collected
Mourning Dove	2
Ash-throated Flycatcher	1
<u>Empidonax</u> sp.	1
Wilson's Warbler	1
Orange-crowned ? Warbler	1
Warbler sp.	1
Chipping sparrow	1
White-crowned Sparrow	<u>1</u>
	9





DEPARTMENT OF THE NAVY  
SURFACE WEATHER OBSERVATIONS  
(SHIP STATION)

WBANJIA

U.S.S. GRANVILLE S. Hall STATION                      LATITUDE                      LONGITUDE                      DATE 12 SEPT 19  

POSITION QLL11 1A	COURSE 1B	SPD 1C	TYPE 1D	TIME (GCT) 2	SKY AND CEILING (HUNDREDS OF FEET) 3	VISIB- ILITY (NAUT. MILES) 4	WEATHER AND OBSTRUCTIONS TO VISION 5	SEA LEVEL PRESS. (MBS.) 6	TEMP. (°F.) 7	DEW PT. (°F.) 8	WIND DIREC- TION 9	SPEED (KTS.) 10	CHARAC- TER AND SHIFTS 11	ALTIM- ETER SET. (INS.) 12	REMARKS AND SUPPLEMENTAL CODED DATA 13	14A	14B	OBSER- VERS INITI- ALS 15
13315	295	11	R	0000	E 20 0	10		138	74	70	21	08						RKL
13317	296	10	R	0000	E 15 0	10		139	69	67	19	06						MWL
13318	296	10	R	0000	E 15 0	10		139	69	66	18	03						MWL
13420	315	7	R	0000	E 10 0	4	L-	115	5	64	16	14						MWL
13 SEPT																		
13522	345	11	R	0000	E 15 0	7		146	65	62	22	10						RKL
13523	270	12	R	0000	E 15 0	10		148	66	62	23	04						RKL
13524	273	12	R	0000	15 0	10		135	65	61	21	06						RKL
13525	281	10	R	0000	E 15 0	10		149	65	61	20	08						MWL
14 SEPT																		
13526	275	10	R	0000	E 15 0	10		120	66	60	27	06						MWL
13526	183	10	R	0000	E 15 0	10		145	68	61	24	00			BINOVC			MWL
13525	090	10	R	0000	10 0 15 0	26	F-	142	64	62	00	00						MWL
13524	090	10	R	0000	10 0 15 0	12	F	135	66	63	20	17			F VSEY E 4 W			MWL
15 SEPT																		
13425	095	11	R	0000	E 12 0	10		135	67	62	34	13						RKL
13422	092	12	R	0000	E 15 0	10		132	65	60	34	18						RKL
13421	182	10	R	0000	E 15 0	10		118	65	60	34	22						RKL
13322	272	10	R	0000	E 15 0	10		127	67	61	23	11						MWL
16 SEPT																		
13421	272	10	R	0000	10 0 15 0	10		125	67	62	33	10						MWL
13421	272	10	R	0000	10 0	10		125	67	65	32	11						MWL
13421	272	10	R	0000	10 0 70 0	10		132	62	63	34	10						MWL
13421	180	10	R	0000	15 0	10		148	72	65	29	05						RKL
17 SEPT																		
13425	095	10	R	0000	15 0 20 0	10		142	71	62	29	05						RKL
13424	102	10	R	0000	10 0	10		155	70	63	24	07						MWL
13424	272	10	R	0000	10 0 70 0	10		159	67	64	33	09						MWL
13422	272	11	R	0000	E 10 0	10		182	64	65	30	06						RKL
18 SEPT																		
13222	074	10	R	0000	10 0 15 0 F 10 0	10		165	67	66	33	15						MWL
13221	183	10	R	0000	15 0	10		155	68	65	32	19						RKL
13222	270	10	R	0000	0	10		152	67	62	35	25						RKL
13224	272	10	R	0000	10 0 70 0	10		72	67	67	36	20						MWL
19 SEPT																		
13225	210	10	R	0000	10 0 70 0	10		62	73	64	34	28						MWL
13226	270	10	R	0000	00 0 70 0	10		55	70	65	34	18						MWL
13126	091	10	R	0000	10 0 15 0 70 0	10		125	71	66	35	18						MWL
13125	092	0	R	0000	20 0	0		28	64	63	35	21						RKL
20 SEPT																		
13025	090	10	R	0000	E 20 0	10		194	72	64	35	15						RKL
13123	085	10	R	0000	F 20 0	10		232	70	63	34	16						RKL
13122	085	10	R	0000	E 20 0	10		224	69	63	36	09						RKL
13122	240	10	R	0000	10 0 70 0	10		228	68	63	31	07						MWL
21 SEPT																		
13122	240	10	R	0000	10 0 E 7 0	10		274	69	61	32	10						MWL
13122	240	10	R	0000	10 0	10		218	67	62	30	09			ONLY TGC CMENT			MWL
13122	010	9	R	0000	10 0 15 0 E 7 0	10		278	69	65	14	06			TN MOVES FGT LTG CCG			MWL
13122	—	—	—	—	E 5 0	3		142	—	—	16	05			VSOY NLS 4			RKL



C 70460













































FIELD #	SPECIES	DATE-1967	POSITION	WT (g)	FAT	SEX	REF
140001	COLUMBA FASCIAIA	27 JULY	31°42' N ; 124°28' W				
002	PETER DROMA COOKI	28 JULY	30°08' N ; 124°16' W	208	LIGHT	?	GONAD
003	"	"	"	206	"	?	OVARY
004	"	"	"	218	"	?	LAST
005	"	"	"	206	"	?	OVARY
006	"	"	"	239	"	?	LAST
007	"	"	"	257	"	?	OVARY
008	"	"	"	224	"	?	LAST
009	"	"	"	202	"	?	TESTES
010	"	"	"	186	"	?	OVARY
011	"	"	"	215	"	?	LAST
012	"	"	"	217	LIGHT	?	TESTES
013	Puffinus pacificus	"	"	68			
014	"	"	"	67			
015	FULMAR	"	"	701			
016	Oceanodroma leucorhoa	"	"	33	MEDIUM	?	L. TEST
017	ASIO OTUS	"	30°56' N ; 124°18' W	240			
018	Oceanodroma leucorhoa	5 AUG.	34°57' N 121°54' W	350	HEAVY	?	OVARY
019	"	"	34°57' N 121°53' W	290	MEDIUM	?	1X
020	"	"	34°57' N 121°52' W	200	"	?	3X
021	"	"	34°57' N 121°54' W	310	"	?	2X
022	"	"	34°57' N 122°03' W	35	"	?	2X
023	"	"	34°57' N 122°03' W	40 (WET)	HEAVY	?	1X
024	"	"	34°57' N 122°04' W	37	MED.	?	3X
025	"	"	34°57' N 122°05' W	32	"	?	2X
026	"	"	34°57' N 122°04' W	36	"	?	3X
027	"	"	34°57' N 122°04' W	32	LIGHT	?	1X
028	"	"	34°57' N 122°04' W	35	MED	?	1X







NO.	SPECIES	DATE	POSITION	WT GR	FAT	SEX	REPROD.
10027	STREPTOPUS	9 AUG	34°57'N 121°54'W	272			
30	PROCEPHALUS HETERURUS	"	34°57'N 122°01'W	600			
31	DECAPODUS LEUCOSTOMA	2330	34°51'N 121°03'W	28			
32	"	2400	34°51'N 124°43'W	36			
33	MACROTURUS AT-ER	1425	34°13'N 126°19'W	26		imm. ♂	Testis minute
34	EUPHYCNOPE HETERURUS	0530	34°14'N 123°23'W	184	moderate	♂	Testis small
35	ICHTHUS GULLEUS	1950	33°35'N 121°23'W	37		♂	
36	STREPTOPUS HETERURUS	0045		52			
37	DECAPODUS LEUCOSTOMA	0030		23			
38	"	0115		22			
39	Erolia minutilla	16 Aug		15			
40	Zenaidura macroura	16 Aug		104			
41	Phalaropus lobatus	26 Aug - 1500	34°55'N 122°50'W				
42	Stelatornis longicauda	26 Aug - 1600	34°54'N 123°03'W				
43	Phalaropus lobatus	26 Aug - 1800	34°11'N 121°52'W				
44	Columba f. fasciata	1 Sept - 0200	31°55'N 121°00'W	362			
45	Zenaidura macroura	1 Sept - 1915	31°40'N 122°40'W	95.4			
46	Stelatornis longicauda	2 Sept 1418	31°38'N 125°20'W	45.0			
47	Decapodina leucostoma	2 Sept	31°35'N 125°22'W	21.5			
48	Decapodina leucostoma	2 Sept	31°38'N 125°22'W	44			
49	"	2 Sept	31°39'N 125°22'W	29			
50	"	2 Sept	31°38'N 125°22'W	35			
51	"	2 Sept	31°38'N 125°22'W	38			
52	"	2 Sept	31°39'N 125°22'W	36			
53	"	2 Sept	31°38'N 125°22'W	42			
54	"	2 Sept	31°39'N 125°22'W	34			
55	"	2 Sept	31°38'N 125°22'W	30			
56	"	2 Sept	31°38'N 125°22'W	32			



FIELD #	SPECIES	DATE-1967	POSITION	WT grams	Fat	SEX	REPRODUCTION
140957	<i>Flareoloma Cooki</i>	3 Sept 1967	30°56'N 124°47'W	187	DITE	♀	ova 0 - 1-200000
58	<i>Melospiza cinerea</i>	3 Sept 1967	30°54'N 123°16'W	31			
59	<i>Zenaidura macroura</i>	5 Sept 1967	32°28'N 113°01'W	124			
60	<i>Zenaidura macroura</i>	5 Sept 1967	32°28'N 117°54'W	40.5			
61	<i>Zenaidura macroura</i>	12 Sept 1967	33°57'N 120°39'W	89			
62	<i>Myiarchus tuberculifer</i>	12 Sept 1967	33°56'N 120°41'W	25			
63	<i>Empidonax</i> sp.	12 Sept 1967	34°05'N 120°45'W	2.5			
64	<i>Sialia mexicana</i>	12 Sept 1967	34°15'N 121°04'W	10.5			
65	<i>Zenaidura macroura</i>	12 Sept 1967	34°20'N 121°50'W	73			
66	<i>OCEANODROMA LEUCOPHSE</i>	12 Sept 1967	34°50'N 125°12'W	75.33			
67	"	" 14 <sup>th</sup>	34°50'N 125°50'W	40			
68	"	" 14 <sup>th</sup>	34°50'N 125°57'W	32			
69	"	" 14 <sup>th</sup>	34°50'N 126°02'W	33			
70	"	" 15 <sup>th</sup>	35°00'N 126°10'W	25			
71	<i>Sterna paradisaea</i>	" 14 <sup>th</sup>	34°50'N 125°59'W	114	Extra	♂	ova 7-16, 1st stage 1.5
72	<i>Sterna paradisaea</i>	" 14 <sup>th</sup>	34°50'N 125°59'W	132	Heavy fat	♂	Black, Reddish, 2nd stage 2.4, 3rd stage 2.4, 4th stage 2.4
73	<i>Sterna paradisaea</i>	" 14 <sup>th</sup>	35°00'N 126°15'W	120	Heavy fat	♂	Black, Reddish, 2nd stage 2.4, 3rd stage 2.4, 4th stage 2.4
74	<i>Melospiza cinerea</i>	13 Sept 1967	34°56'N 125°30'W	38			
75	"	13 Sept 1967	34°58'N 126°00'W	10			
76	<i>Empidonax</i>	12 Sept 1967		35			
77	<i>Empidonax</i>	20 Sept 1967		7.5			
78	<i>Sayornis</i>	20 Sept 1967		10			
79	<i>Melospiza cinerea</i>	20 Sept 1967		35			
80	<i>Zenaidura macroura</i>	21 Sept 1967		73			
81	"	22 Sept 1967		6.5gms			
82	"	22 Sept 1967		9gms			
83	"						
84	"						





FIELD NO.	SPECIES	DATE - 1967	POSITION	WT grams	FAT	SEX	REPRODUCTION
80		16 October					
81		20 October					
82		25 October					
83		31 October	35°35'N; 122°10'W				
84		1 November	34°10'N; 126°23'W				
85		3 November	33°20'N; 122°40'W	65			
91	Oceanodroma leucorhoa	3 Nov.	33°17'N; 124°10'W	40	Mod-Lt	♂	1X1mm Feather
92	"	"	"	37	Mod	♂	1X1mm Feather
93	"	"	"	44	Mod	♀	3X2mm Feather
94	"	"	"	42	Mod-Lt	♀	5X3mm Feather
95	"	"	"	43	Mod	♂?	Minute Feather
96	"	"	"	35	Mod	♀	3X2mm B.P.
97	"	"	"	42	Mod	♂	granular B.P.
98	"	"	"	39	Mod	♀	4X2mm granular Feather
99	"	"	"	43	Mod	♂?	Minute Feather
100	"	"	"	39	Mod-Lt	♀	5X3mm Feather
101	"	"	"	40	Mod-Lt	♀	3X2mm granular Feather
102	"	"	"	38	Lt.	♀	1X1mm B.P.
103	"	"	"	35	Mod	♀	3X2mm B.P.
104	"	"	"	42	Mod	♀	granular B.P.
105	"	"	"	43	Mod	♀	10mm B.P.
106	"	"	"	38	Mod	♂	Egg
107	"	"	"				3X3mm Feather
108	Oceanodroma leucorhoa	4 Nov.	32°31'N; 123°44'W	NT	Mod	♂	7X5mm
109	"	5 Nov.				♀	small 1X1mm
110	"		31°43'N; 121°05'W	NT	light	♀	large 1X1mm
111	"		"	NT	light	♀	large 1X1mm
112	"		"	NT	Mod	♀	large 1X1mm

SEX	DESCRIPTION	NOTES	CFT #	DISP
		shot	B	
		shot		RDCC(345) SKIN
				Flat SKIN
♂	1X 1mm Feathered		B (1)	S RDC (346)
♂	1X 1mm Feathered		B (3)	S RDC (347)
♂	3mm Feathered		B (5)	S RDC (348)
♂	5X 3mm Feathered			S RDC (349)
♂?	4mm Feathered			S RDC (350)
♂	3X 2mm B.P.R.			S RDC (351)
♂	9mm B.P.R.			S RDC (352)
♂	1X 1mm Feathered			S RDC (353)
♂	4mm Feathered			S RDC (354)
♂?	5mm Feathered			S RDC (355)
♂	3X 2mm			S RDC (356)
♂	9mm Feathered			S RDC (357)
♂	1X 1mm B.P.R.			S RDC (358)
♂	3X 2mm B.P.R.			S RDC (359)
♂	9mm Feathered			S RDC (360)
♂	10mm B.P.R.			S RDC (361)
♂	Egg collection			
♂	3X 3mm Feathered			
♂	1X 1mm Feathered			
♂	7X 5mm U.		BS	S RDC (362) Flat SKIN
♂	2000/ 11.47mm	light Body Molt	B S	TJL (0298) SKIN
♂	Left eye 3mm	Color Notes taken		
♂	2000/ 8.83mm	no Body Molt	B, E.S	TJL (0299) SKIN
♂	Smooth	Color Notes taken		
♂	2000/ 11.2mm	no Body Molt	S	TJL (0300) SKIN
♂	Smooth	Color Notes taken		



FIELD #	SPECIES	DATE	COORDINATES	WT. (GRAMS)	FAT	SEX	REPRO
13		5 Nov. 1967	31° 43' N; 121° 05' W				
14		"	" "				
15		"	" "				
16		"	" "				
17		"	" "				
18		"	" "				
19		"	" "				
20		"	" "				
21		"	" "				
22		"	" "				
23		"	" "				
24		"	" "				
25		7 Nov 1967	30° 51' N; 123° 27' W	62 gms			
26		"	30° 51' N; 122° 26' W	98.5 gms			
27		"	30° 51' N; 122° 05' W	48.0 gms			
28	"	"	" "	42.5 gms			
29	"	"	" "	42 gms			
30	"	"	" "	57.5 gms			
31	"	"	" "	38 gms			
32	"	"	" "	38.5 gms			
33	"	"	" "	39 gms			
34	"	"	" "	48.0 gms			
35	"	"	" "	48.0 gms			
36	"	"	" "	43.5 gms			
37		"	" "	53 gms			
38		18 Nov 67	33° 20' N ~ 152° 10' W	607 gms	Moderate	♂	L Testis 3.5 x R Testis 2.5 x
39		"	" "	470 gms	Moderate	♂	L Testis 6.5 x R Testis 4.5 x
40		"	" "	425 gms	Moderate	♂	Testes minute

REPRODUCTION	REMARKS	CAT. #	DISP.
	B.		
	B.		
L Testis 3.4 x 2.5 mm } Black R Testis 2.5 x 1 mm }	Light Body Molt		
L Testis 6.4 x 2.5 mm	Stomach Empty, F Color Notes taken	TJL(0306)	S/IN
R Testis 7.8 x 1.5 mm	Malpian's Glands Molt	TJL(0307)	S/IN
Feet minute	S color Notes taken		Flot
	No Molt	TJL(0308)	S/IN
	S color Notes taken		

Field #	SPECIES	DATE	COORDINATES	WT Grams	FAT	SEX	REPROD
41	"	18 Nov 67	Pacific Ocean 33°20'N-122°10'W	37.5gms	light	♀	ovary 3x4 small
42	"	"	"	54.0	Heavy	♀	ovary 7x8 ova regressed
43	"	"	"	57.0	Heavy	♀	ovary 9x10 ova regressed
44	"	"	"	53.0	Moderate	♀	ovary 7x8
45	"	"	"	61.0gms	Heavy	♀	ovary 7x8
46	"	"	"	54.0gms	Moderate	♀	ovary 8x9
47	"	"	"	57.5gms	Moderate	♀	ova regressed
48	"	"	"	44.5gms	Heavy	♂	ova regressed L. Testis 3x2 R. Testis 2x1
49	"	"	"	39.0gms	light	♂	ovary 6x7
50	"	"	"	50.5gms (wet)	light	♀	ova 7x4
51	"	"	"	55.0gms	Moderate	♀	ova regressed
52	"	"	"	50.5gms	Moderate	♀	ovary 5x6
53	"	"	"	55.5gms	Moderate	♀	ovary 7x8
54	"	"	"	47.0gms	light	♂	ova small L. testis 2x1
55	"	"	"	47.0gms (wet)	Moderate	♂	L. testis 1x1
56	"	"	"	54.5gms	Moderate	♀	ovary 7x8
57	"	"	"	42.0gms	Moderate	♀	ova small Nat. Form
58	"	"	"	51.5gms	Heavy	♀	ovary 7x8
59	"	"	"	43.5gms	Moderate	♀	ovary 3x4
60	"	"	"	41.5gms	Moderate	♂	ova small L. testis
61	<i>Arctoccephalus forsteri</i>	22 Oct 67	Pacific Ocean	—	—	Pres.	—
62	"	22 Oct 67	"	—	—	♂	—
63							
64							
65							
66							
67							
68							





Field #	Species	Date	Coordinates	Wt. Grams	Feet	Sex	T
50105	Larus argentatus	5 Jan 68				♀	0.1
50106	Larus delawarensis	8 Jan 68			light	♀	0.1
50107	Larus delawarensis	"			heavy	♀	0.1
50108	"	"			medium	♀	0.1
50109	Larus argentatus	10 Jan 68					0.1
50110	Puffinus pacificus	10 Jan 68			heavy	♀	





EASTROPAL

Field #	Species	Date	Coordinates	Wt. Grams	Fat	Sex	Reprod
52031	<i>Thalassidroma</i>	23 Oct. 67	15° 04' N.; 119° 07' W.		None	♂	L. testis: 6.5
52032	<i>Thalassidroma</i>	24 Oct 67	09° 37' N.; 119° 05' W.		v. light	♀	ovary 10 oviduct
52033	"	"	"		None	♂	L. testis
52034	"	"	"		None	♀	ovary: 12x largest ova oviduct 5mm
52034	"	"	"		None	♂	L. Testis:
52036	<i>Thalassidroma</i>	24 Oct 67	09° 37' N.; 119° 05' W.		None	♀	ovary 10
52037	<i>Thalassidroma</i>	"	"		None	♀	ovary; 12x ovary corvus
52038	<i>Thalassidroma</i>	"	"		moderate	♀	ovary 10mm oviduct 5mm
52039	"	"	"		light	♀	ovary 12x oviduct 5mm
110076	"	"	"		light	♀	ovary 12x oviduct 5mm
110077	"	"	"		light	♂	ovary 12x oviduct 5mm
110078	<i>Thalassidroma</i>	3 Nov 67	08° 08' N.; 112° 11' W	735	moderate	♀	ovary 15x oviduct 5mm
110079	"	"	"	665	light	♀	ovary 10 oviduct 5mm
110080	<i>Thalassidroma</i>	4 Nov 67	09° 55' N.; 112° 10' W		moderate	♀	ovary 12x oviduct 5mm
110081	<i>Thalassidroma</i>	12 Nov 67	14° 07' N.; 102° 45' W.		-	♂	Testes

Sex	Reproduction	Remarks	Cat. #	Disp.
♂	testes 6x5mm. black	Heavy body molt Color notes taken	SNH(0416)	skin
♀	ovary 10x5mm smooth oviduct small, straight	Heavy body molt	SNH(0417)	skin
♂	L. Testis 12x5, white	Moderate to heavy body molt.	SNH(0418)	skin
♂	ovary 10x5mm oviduct small, straight	Heavy body molt	SNH(0419)	skin
♂	L. Testis 6x5mm black	Heavy body molt Color notes taken	SNH(0420)	skin
♀	ovary 10x5mm; smooth	Heavy body molt	SNH(0421)	skin
♀	ovary 10x5mm; smooth oviduct small, straight	Heavy body molt	SNH(0422)	skin
♀	ovary 10x5mm; smooth oviduct small, straight	Moderate body molt.	SNH(0423)	skin
♀	ovary 10x5mm; smooth oviduct small, straight	Heavy body molt.	SNH(0424)	skin
♀	ovary 10x5mm; smooth oviduct small, straight	Heavy body molt.	SNH(0425)	skin
♂	ovary 10x5mm; smooth oviduct small, straight	Moderate to heavy body molt	SNH(0426)	skin
♀	ovary 10x5mm; smooth oviduct small, straight	Light body molt, Flight feather molt taken Color notes taken	SNH(0427)	skin
♀	ovary 10x5mm; smooth oviduct small, straight	Light body molt, Flight feather molt taken	SNH(0428)	skin
♀	ovary 10x5mm; smooth oviduct small, straight	Color notes taken	SNH(0429)	skin
♀	ovary 10x5mm; smooth oviduct small, straight	Moderate body molt; heavy on wings	SNH(0430)	skin
♀	ovary 10x5mm; smooth oviduct small, straight	Color notes taken	SNH(0431)	skin
♂	testes minute	Color notes taken	SNH(0432)	skin